



# APTITUDE TEST

## DESCRIPTIONS

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## BANKING MATH SKILLS TEST

- Purpose:** This test measures basic math skills for banking jobs.
- When To Use It:** This test is recommended for candidates for tellers and loan officer jobs in banks and other financial institutions.
- Target Group:** We recommend using this for entry-level bank tellers and loan officers.
- High Scorers:** High scorers are likely to catch on quickly to various math functions in teller and loan officer jobs. They are not as likely to make errors as someone who scores low.
- Low Scorers:** Low scorers will have a hard time dealing with the everyday math functions associated with jobs in banking. During and after training, they are likely to make more errors than normal.
- Number of Items:** 10 basic addition problems, 4 basic percentage questions, and 6 word problems that incorporate addition and percentage operations.
- Time Limits:** Untimed
- Validity:** Content validity based on Subject Matter Expert reports of job content.

### Sample Problems

### SAMPLE ANSWERS

1.     356 + 187 -----	(a) 553 (b) 533 (c) 564 (d) 433 (e) 453
2.     8% of \$12,000	(a) \$1048 (b) \$920 (c) \$860 (d) \$960 (e) \$840
3.     If a customer opens a savings account with a balance of \$4000 and the account earns 12% interest per year. What will be the account balance at the end of one year?	(a) \$480 (b) \$4480 (c) \$4840 (d) \$44800 (e) correct answer not given



## BASIC MATH SKILLS I - ARITHMETIC TEST

<b>Purpose:</b>	This test measures skill in five areas of basic math using whole numbers: (1) adding, (2) subtracting, (3) multiplying, (4) dividing, and (5) using arithmetic to solve simple work-related word problems.
<b>When To Use It:</b>	The Basic Math Skills I – Arithmetic test should be used where employees need to be competent in making simple calculations in their jobs. The test points up areas of deficiency that could be remediated by targeted training on the job. We believe that even though most jobs allow use of calculators, people who cannot do simple math in their head or by hand calculations will make a lot more mistakes when using calculators. Therefore, we advise against allowing candidates to use calculators for this test.
<b>Target Group:</b>	We recommend using this for any position where you need to know employees’ level of math skills and areas of deficit.
<b>High Scorers:</b>	People scoring high on the Basic Math Skills I– Arithmetic Test should perform the quantitative aspects of their job more quickly with a minimum of mistakes.
<b>Low Scorers:</b>	People scoring low on the Basic Math Skills I –Arithmetic test are likely to make a lot of mistakes in their work, thus causing problems with production and record keeping.
<b>Number of Items:</b>	5 problems in each section for a total of 25 questions
<b>Time Limits:</b>	Untimed
<b>What the Report Provides:</b>	The report provides an overall score for all 25 problems, as well as separate scores for the five topic areas: Adding, Subtracting, Multiplying, Dividing, and Word Problems.
<b>Validity:</b>	Content validity based on Subject Matter Expert reports of job content. Scores are reported as "Percent Correct."

### Sample Questions

### ANSWERS

1.	28 – 13 (A) 12 (B) 13 (C) 14 (D) 15 (E) Correct answer not given	D
2.	83 X 22 (A) 1826 (B) 1816 (C) 1736 (D) 1636 (E) Correct answer not given	A
3.	This morning you had 1527 widgets in inventory. Then you accepted two cases of 150 each to add to the inventory, but you also had to dispense 35 to the production line. How many widgets were in inventory at the end of the day? (A) 1609 (B) 1792 (C) 1542 (D) 1532 (E) Correct answer not given	B

## BASIC MATH SKILLS II - DECIMALS TEST

<b>Purpose:</b>	This test measures skill in six areas of basic math with decimals: (1) adding, (2) subtracting, (3) multiplying, (4) dividing, (5) converting decimals to shop fractions, and (6) identifying which decimal is larger.
<b>When To Use It:</b>	The Basic Math Skills II – Decimals test should be used where employees need to be competent in basic math on their jobs. The test points up areas of deficiency that could be remediated by targeted training on the job. We believe that even though most jobs allow use of calculators, people who cannot do simple math in their head or by hand calculations will make a lot more mistakes when using calculators. Therefore, we advise against allowing candidates to use calculators for this test.
<b>Target Group:</b>	We recommend using this for any position where you need to know employees’ level of math skills and areas of deficit.
<b>High Scorers:</b>	People scoring high on the Basic Math Skills II– Decimals should perform the quantitative aspects of their job more quickly with a minimum of mistakes.
<b>Low Scorers:</b>	People scoring low on the Basic Math Skills II – Decimals test are likely to make a lot of mistakes in their work, thus causing problems with production and record keeping.
<b>Number of Items:</b>	5 problems in each section for a total of 30 questions.
<b>Time Limits:</b>	Untimed
<b>What the Report Provides:</b>	The report provides an overall score for all 30 problems, as well as separate scores for the six topic areas: Adding, Subtracting, Multiplying, Dividing, Conversion to Fractions, and “Which is Larger?”
<b>Validity:</b>	Content validity based on Subject Matter Expert reports of job content. Scores are reported as "Percent Correct."

### Sample Questions

### ANSWERS

	Sample Questions	ANSWERS
1	$1.24 + .05 =$ (A) 1.245 (B) 1.524 (C) 1.29 (D) 1.74 (E) Correct answer not given	C
2	$.2 =$ (A) $1/2$ (B) $1/3$ (C) $1/20$ (D) $1/5$ (E) Correct answer not given	D
3	Which is larger? (A) .0438 or (B) .127	B



## BASIC MATH SKILLS III - FRACTIONS TEST

<b>Purpose:</b>	This test measures skill in five areas of basic math with fractions: (1) adding, (2) subtracting, (3) multiplying, (4) dividing, (5) converting fractions to decimals.
<b>When To Use It:</b>	The Math Skills III – Fractions test should be used where employees need to be competent in fractions on their jobs. The test points up areas of deficiency that could be remediated by targeted training on the job.
<b>Target Group:</b>	We recommend using this for any position where you need to know employees' level of math skills and areas of deficit.
<b>High Scorers:</b>	People scoring high on the Math Skills III – Fractions should perform the quantitative aspects of their job more quickly with a minimum of mistakes.
<b>Low Scorers:</b>	People scoring low on the Math Skills III – Fractions test are likely to make a lot of mistakes in their work, thus causing problems with production and record keeping.
<b>Number of Items:</b>	5 problems in each section for a total of 25 questions
<b>Time Limits:</b>	Untimed
<b>What the Report Provides:</b>	The report provides an overall score for all 25 problems, as well as separate scores for the five topic areas: Adding, Subtracting, Multiplying, Dividing, Conversion to Decimals.
<b>Validity:</b>	Content validity based on Subject Matter Expert reports of job content. Scores are reported as "Percent Correct."

### Sample Questions

### ANSWERS

1	$1/8 + 3/4 =$ (A) 4/4 (B) 7/8 (C) 5/8 (D) 3/8(E) Correct answer not given	B
2	$1/16 \times 1/4 =$ (A) 1/32 (B) 1/4 (C) 1/25 (D) 1/64 (E) Correct answer not given	D
3	$2 \frac{1}{8} =$ (A) 2.18 (B) 2.125 (C) 2.80 (D) 2.28 (E) Correct answer not given	B

## BASIC MATH SKILLS TEST – GENERAL

(not available online)

<b>Purpose:</b>	This test measures skill in several areas of basic math: (1) Adding, (2) Subtracting, (3) Multiplying, (4) Dividing, (5) Decimals, (6) Fractions, (7) simple word problems, and (8) reading simple graphs. We can add other sections to this test as needed – or you can use only those sections of the test that apply to your situation.
<b>When To Use It:</b>	The Basic Math Skills Test should be used where employees need to be competent in basic math on their jobs. The test points up areas of deficiency that could be remediated by targeted training on the job.
<b>Target Group:</b>	We recommend using this for any position where you need to know employees' level of math skills and areas of deficit.
<b>High Scorers:</b>	People scoring high on the Basic Math Skills Test should perform the quantitative aspects of their job more quickly with a minimum of mistakes.
<b>Low Scorers:</b>	People scoring low on the Basic Math Skills Test are likely to make a lot of mistakes in their work, thus causing problems with production and record keeping.
<b>Number of Items:</b>	10 problems in each section.
<b>Time Limits:</b>	Untimed
<b>Validity:</b>	Content validity based on Subject Matter Expert reports of job content.  Scores are reported as "Percent Correct."

### Sample Problems

### SAMPLE ANSWERS

1. $14 + 28 =$	42
2. $59 - 14 =$	45
3. $12 \times 125 =$	1500
4. $135 \div 12 =$	$11 \frac{3}{4}$ (remember to reduce your fractions to the lowest terms)
5. $2.11 + .078 =$	2.188
6. $\frac{2}{3} + \frac{1}{16} =$	$\frac{35}{48}$
7. You are scheduling a job that will need 3 Certified Lab Techs, 12 Associates, and 1 Supervisor. These particular employees are paid as follows: Supervisor: \$14.00/hour; Lab Tech: \$12/hour, and Associates: \$8.50/hour. What will the labor costs for this job be per week?	\$6080



## BASIC MATH TEST for DELIVERY DRIVERS

- Purpose:** This test measures skill in several areas of typical math problems for truck drivers who make deliveries: (1) Adding, (2) Subtracting, (3) Multiplying, (4) Dividing, and simple job-related word problems.
- When To Use It:** The Basic Math Skills Test should be used where employees need to be competent in basic math on their jobs. The test points up areas of deficiency that could be remediated by targeted training on the job.
- Target Group:** We recommend using this for any position where you need to know employees' level of math skills and areas of deficit.
- High Scorers:** People scoring high on the Basic Math Skills Test should perform the quantitative aspects of their job more quickly with a minimum of mistakes.
- Low Scorers:** People scoring low on the Basic Math Skills Test are likely to make a lot of mistakes in their work, thus causing problems with production and record keeping.
- Number of Items:** 20 basic arithmetic (add, subtract, multiply, divide) questions and 5 word problems.
- Time Limits:** Untimed
- Validity:** Content validity based on Subject Matter Expert reports of job content.  
Score is reported as "Percent Correct."

### Sample Problems

### SAMPLE ANSWERS

1. $12 + 9 =$	(a) 19 (b) 20 (c) 21 (d) 23 (e) not given
2. $115 - 97 =$	(a) 15 (b) 16 (c) 17 (d) 18 (e) not given
3. $12 \times 6 =$	(a) 72 (b) 70 (c) 60 (d) 45 (e) not given
4. $36 \div 12 =$	(a) 3 (b) 4 (c) 5 (d) 6 (e) not given
5. Joe Driver was dispatched 22 orders to be delivered for Friday. His beginning inventory of oil on the truck was 3235 gallons. He delivered 235 gallons to stop #1. Joe then drove 13 miles to stop #2 that took 250 gallons of oil. He then stopped for lunch for 17 minutes. He drove an additional 7 miles to stop #3, where he delivered on 500 gallons. What was the oil inventory level after stop #1?	(a) 2235 (b) 2246 (c) 2000 (d) 3000 (e) not given





## BOOKKEEPING / ACCOUNTING MATH TEST

- Purpose:** This test evaluates the candidate's skills in basic bookkeeping / accounting principles.
- When To Use It:** It would be appropriate for candidates going into a bookkeeping or entry-level accounting job where you expect the new hire to bring some basic skills into the job.
- High Scorers:** People scoring high on this test will be able to take on basic tasks without much supervision, and they will move quickly to learn new accounting tasks specific to your company.
- Low Scorers:** People scoring low on this test will need a great deal of new employee orientation and training. They will not be able to function on their own without guidance.
- Number of Items:** 10 arithmetic problems, 10 word problems, and 20 requiring interpretation of a spreadsheet
- Time Limits:** Untimed
- Validity:** This test was developed by Subject Matter Experts, and it has been reviewed by other experts in the accounting field to demonstrate content validity. Before using this test, we recommend that you review the content of the items to determine its appropriateness in your work environment.

### Sample Items

Part I: In the first section of the test are 10 math conversion problems such as:  
What is the decimal version of  $\frac{1}{4}$ ? (a) .40 (b) .44 (c) .25 (d) .14 (e) .60

Part II: In the second part of the test are 10 word problems that involve questions such as:  
If the Operations Manager wants to bring in an Engineer at 120% of the top salary range of \$70,000, what would the job offer total? (a) \$75,000 (c) \$82,000 (d) \$84,000 (e) \$105,000

Part III includes 11 questions pertaining to managing numbers using an Excel database such as

What employee had the greatest sales in March? (a) Kisha Jones (b) Sarah Bates (d) Total (d) Joe Smith (e) James Proud

	A	B	C	D	E
1	First Quarter Sales Department G				
2		January	February	March	
3	Joe Smith	\$ 10,456.00	\$ 18,646.00	\$ 13,586.00	
4	Sarah Bates	\$ 23,183.00	\$ 23,584.00	\$ 31,251.00	
5	Kim Peterson	\$ 12,358.00	\$ 12,358.00	\$ 18,543.00	
6	James Proud	\$ 32,158.00	\$ 32,186.00	\$ 28,543.00	
7	Norm Davis	\$ 10,896.00	\$ 12,384.00	\$ 12,328.00	
8	Kisha Jones	\$ 32,285.00	\$ 28,435.00	\$ 32,265.00	
9	Dominique Kleer	\$ 21,584.00	\$ 12,183.00	\$ 21,548.00	
10	Jerry Palmer	\$ 32,217.00	\$ 32,157.00	\$ 28,560.00	
11	<b>TOTAL</b>	\$ 175,137.00	\$ 171,933.00	\$ 186,624.00	
12					



## CASHIER MATH TEST

<b>Purpose:</b>	This test is a minimal screen to assess basic math skills related to retail tasks where employees have to do some calculations about the total bill and make change.
<b>When To Use It:</b>	Where employees are working a cash register or writing up tickets for retail purchases or meals in a restaurant. The test is appropriate for screening out people with minimal math skills.
<b>Target Group:</b>	People applying for retail positions that involve handling money.
<b>High Scorers:</b>	People who score high on the Cashier Math Test should be quicker at figuring total bills, making change, and spotting problems with arithmetic.
<b>Low Scorers:</b>	People who score low on this test will be slow in figuring customers' bills and make a lot of mistakes.
<b>Number of Items:</b>	16
<b>Time Limits:</b>	None
<b>Validity:</b>	This is a content valid test that uses "real-life" situations to evaluate capacity for handling monetary transactions in a retail setting. Scores are provided as "Percent Correct."

### *Sample Items*

There are 7 arithmetic problems such as:

$\$35.50 + 14.35 = \underline{\hspace{2cm}}$  (a) 39.85 (b) 39.75 (c) \$44.55 (d) 49.85 (e) 50.85

And there are 9 word problems such as:

A customer's purchase is \$8. When he gives you \$20, what will you give back in change?  
 (a) \$2.00 (b) \$12.00 (c) \$10.00 (d) \$12.99 (e) \$28.00

## CATEGORIZATION ABILITY TEST

<b>Purpose:</b>	This test requires the candidate to read quickly, compare sets of information, make simple decisions on small differences in pieces of paper-based information, then make second judgment about the appropriateness of the information being sought.
<b>When To Use It:</b>	The Categorization Ability Test can be used where employees look up information in large files in order to copy information or gather data. It is a good measure of both processing speed and accuracy of this type administrative task.
<b>Target Group:</b>	We recommend using this test for positions such as bookkeeper, administrative assistant, inventory control personnel, shipping/receiving clerk, accounting personnel, finance clerk.
<b>High Scorers:</b>	People scoring high on the Categorization Ability Test are quick to complete administrative tasks and they do not make many errors.
<b>Low Scorers:</b>	People scoring low on the Categorization Ability Test are somewhat slow in completing their work and they tend to make more errors than expected.
<b>Number of Items:</b>	60
<b>Time Limits:</b>	5 minutes
<b>Validity:</b>	This test was found to be significantly related $r=.43^{**}$ overall performance for telephone sales people; $r=.31^{**}$ with productivity for clerical workers.

### Sample Items

In this test, your task is to categorize the monthly bill according to a code. Several examples are shown below. You will need to:

- Look up the name in the monthly statement list.
- Find what that person's balance is on the monthly balance list.

<b>MONTHLY STATEMENT LIST</b>		<b>CODE</b>	
Abelson, A.C.	\$45.76	Under \$15.95	A
Adkins, S.B.	\$24.44	\$15.96 to \$29.95	B
Akana, M.M.	\$99.41	\$29.95 to \$45.95	C
Andrews, G.L.	\$26.74	\$45.96 to \$98.95	D
Amos, J.B.	\$11.34		
Barron, J.T.	\$35.64		
Beck, K.T.	\$38.57		
Benson, D.R.	\$56.27		
Clement, H.L.	\$55.87		

<b>Sample Questions</b>	<b>Sample Answers</b>
1. Beck, K.T.	B
2. Clement, H.L.	C

## CLERICAL WORK SAMPLE TEST

- Purpose:** This test requires the candidate to search for specific information from a page of complex set of data, then type in the information in an accurate manner onto a template on the computer.
- When To Use It:** The Clerical Work Sample Test should be used to evaluate whether people are capable of quickly searching for information, then remembering it long enough to type it in a new location.
- Target Group:** We recommend using this test for positions such as bookkeeper, administrative assistant, inventory control personnel, shipping & receiving clerk, accounting personnel, finance clerk. It is also useful when you are concerned that candidates might transpose letters and numbers when copying information.
- High Scorers:** People scoring high on the Clerical Work Sample Test are quick to complete administrative tasks and they do not make many errors. This test predicts who can type in information quickly onto a computer screen.
- Low Scorers:** People scoring low on the Clerical Forms Comprehension Test are somewhat slow in completing their work and they tend to make more errors than expected. Low scorers may not be very familiar with using computer keyboards.
- Number of Items:** 50
- Time Limits:** 6 minutes
- Validity:** This test was content validated based on an extensive job analysis for a warehouse personnel in a manufacturing company distribution center. Materials used in this test come from actual employee work activities but is not company specific. A benchmark analysis (n ~ 30) was conducted to establish scoring formula with subject matter expert judgments used in setting cutoffs.

### Sample Items:

#### Source Information Page

Marks and Numbers of Packages	Description and Quantity of Merchandize	Gross Weight	Value (Dollars Only)
<b>DRW-68-1026</b>			
12	Fuse Box 156	9.0000	\$141.00
4	Clamps 29	18.0000	\$590.00
6	Vinyl Tube 650	150.0000	\$210.00
1	PLASTIC COVER 1,200	38.0000	1,138.00
	<b>2,035</b>	<b>215.000</b>	<b>\$2,079.00</b>

#### Sample Questions on the Computer Screen

<b>DRW-68-1026</b>	Vinyl Tube	Value	\$210.00
<b>DRW-68-1026</b>	Fuse Box	# packages	12
<b>DRW-68-1026</b>	PLASTIC COVER	Quantity	?
<b>DRW-68-1026</b>	Clamps	Gross Weight	?

## ENGINEERING / TECHNICAL MATH TEST

- Purpose:** This test provides insight about whether someone has knowledge of engineering math skills in manufacturing and design settings. It serves as an assessment tool for engineers or highly trained technical staff. It is focused on reasoning as well as basic math and engineering subjects. Approximately 70% of the knowledge required for the test could be classified as “general engineering job knowledge” and the remaining 30% would focus more to the formal engineering education (learned most likely in a classroom setting).
- When To Use:** Given that grade inflation is so common in our educational institutions, and people are prone to inflating their actual job experience, a test like this can provide useful insights about how prepared the candidate is to functioning at a high level in your manufacturing setting
- Target Group:** This test is suitable for a wide range of engineering-related and technical positions.
- High Scorers:** People scoring high on this test should be able to handle a wide range of engineering-related duties without a great deal of mentoring or input from supervisors. They are less likely to make serious mistakes. And, when dealing with complex problems, they are more likely to figure out a solution quickly.
- Low Scorers:** People scoring low on this test will probably need a great deal of mentoring and practical help from their managers and other seasoned professionals. When confronting sticky, complex problems, they are easily confused or stumped about what to do. Low scorers are also more likely to make serious errors in judgment which could lead to costly outcomes.
- Test Content and Number of Items:** This test consists of 28 multiple choice questions, some of which relate to a technical drawing that is provided.
- Time Limits:** This test is untimed, although a candidate should not have to spend more than 30 minutes completing these items. Candidates will need extra paper and pencil for working out problems by hand, as well as access to a calculator.
- Scoring** We can present the results in terms of “percent correct” as well as an interpretation of whether that score is High, Above Average, Below Average, or Low.

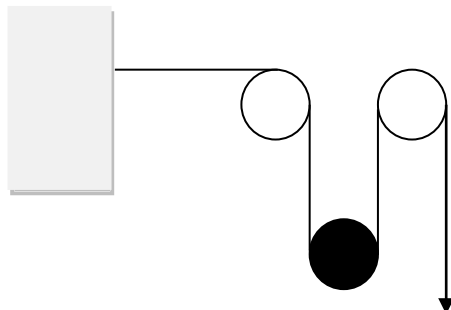
### Here are two sample questions.

Which situation could flow more water?

- a) Single 6” pipe    b) Group of nine 1” pipes    c) Both would flow the same    d) Neither of the above

What tension “X” must be applied to keep the 75 lbs. black weight from moving in the system shown below?

- a) 25 lbs  
b) 50 lbs  
c) 75 lbs  
d) 100 lbs  
e) 150 lbs



## ENTRY-LEVEL WORKER BASIC SKILLS TEST

<b>Purpose:</b>	This test gives you a basis for making hiring decisions based on minimal levels of aptitude.
<b>When To Use It:</b>	When the intellectual demands of your jobs are not great and you simply need to weed out the people who would be most difficult to train, this test would be appropriate.
<b>Target Group:</b>	This test is suitable for a wide range of simple, manual labor jobs across different industries.
<b>High Scorers:</b>	People scoring high on this test should be able to learn the basic skills needed to perform your jobs adequately.
<b>Low Scorers:</b>	People scoring low on this test may be illiterate or simply lacking in intellectual talents. Low scorers are likely to be very difficult to train, thus they will need a lot of supervision. If hired, these people should probably be assigned to your simplest jobs.
<b>Test Content and Number of Items:</b>	<p><b><i>(NOTE: Test content can be easily modified to better fit your particular job)</i></b></p> <ul style="list-style-type: none"><li>• <u>Basic Arithmetic</u>: 20 multiple choice items (5 each adding, subtracting, multiplying, dividing)</li><li>• <u>Word Problems</u>: 3 items that require simple reasoning</li><li>• <u>Ruler Reading</u>: 3 items using a ruler in inches</li><li>• <u>Reading a Clock Face</u>: 3 items</li><li>• <u>Recognizing Safety Violations</u>: 3 situations where a picture is presented along with several possible “True/False” safety violations.</li><li>• <u>Reading Company Policies</u>: 6 items where they have to read a company policy, and then make interpretations to answer multiple-choice questions.</li><li>• <u>Tools Identification</u>: 9 items where a picture is presented along with ten multiple choice answers. This section often needs to be modified based on the tools most often used at your company.</li></ul>
<b>Time Limits:</b>	Untimed
<b>Scoring</b>	We can present the results in terms of percent correct for each section of the test. Alternatively, we could work with you to test a number of your workers, then build a norm to establish cutoffs for satisfactory scores vs. unsatisfactory scores.

## EXCEL PROFICIENCY

<b>Purpose:</b>	This test evaluates knowledge of Excel for people going into a job where the candidate has limited credentials beyond job experience.
<b>When To Use It:</b>	If the job requires some knowledge of Excel, this is a good way to evaluate whether someone has basic competency.
<b>Target Group:</b>	This test is suitable for a people who profess to have intermediate levels of skill in using Excel.
<b>High Scorers:</b>	People scoring high on this test should be able to learn the basic skills needed to perform your jobs adequately.
<b>Low Scorers:</b>	People scoring low on this test will probably need additional training on Excel before they can perform adequately on tasks requiring skill in Excel.
<b>Test Content and Number of Items:</b>	This test has several sections, each of which present an Excel spreadsheet around which the questions are presented. The multiple choice questions ask the candidate to choose which of the several strategies would be appropriate to achieve a certain outcome.  20 questions
<b>Time Limits:</b>	Untimed
<b>Scoring</b>	We can present the results in terms of percent correct for each section of the test. Alternatively, we could work with you to test a number of your workers, then build a norm to establish cutoffs for satisfactory scores vs. unsatisfactory scores.

### **Sample Item** *(NOTE the spreadsheet referenced in this question is not provided here)*

What formula would you use if you wanted to find out Sandra Martin's average monthly sales for the third quarter?

- a. =SUM(B8:D8)/3
- b. =(B8:D8)/3
- c. SUM(B8:D8)/3
- d. =SUM(B8-D8)/3



# FILING TEST

- Purpose:** This test assesses the ability to quickly and efficiently place papers in the proper order.
- When To Use It:** This test is often used for clerical positions where the job requires a lot of organizing, inserting or pulling documents from files.
- Target Group:** We recommend using this test for clerical / office positions where filing accuracy is a priority.
- High Scorers:** People scoring high in this test are quick, efficient, and make few errors.
- Low Scorers:** People scoring low on this test tend to be slow and to make a lot of errors.
- Number of Items:** 50 items
- Time Limits:** Untimed

## Sample Item

### Sample Monthly Statement List

1. Aamer, L.K.
2. Alter, R.J.
3. Amos, S.A.
4. Baah, D.K.
5. Barnes, C.A.
6. Borum, H.G
7. Burdine, S.E

This test provides a monthly statement list into which new items are to be added. The candidate’s task is to determine between which two items the new one should be inserted.

Baba, J.A.	4 – 5	Autry, G.M	_____
Alvis, C.L.	2 - 3	Barr, A.E.	_____
Bump, F.M.	6 – 7	Allis, C.L.	_____

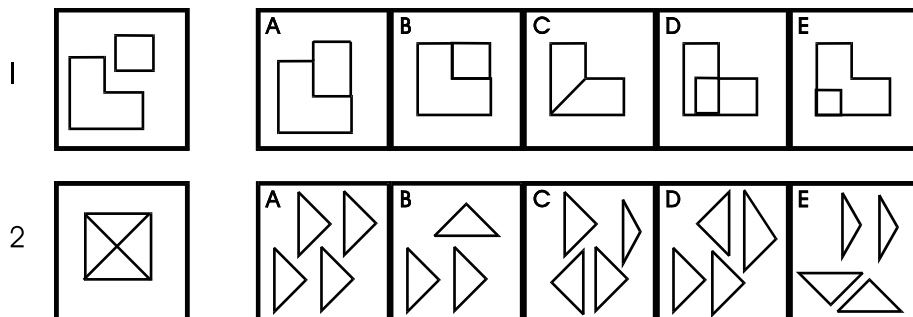


## FORM PATTERN PERCEPTION TEST

- Purpose:** This test evaluates a person’s ability to think in terms of two dimensions and to see how flat shapes fit together. It is appropriate for any job where the employee must be able to conceptualize how parts fit together and it is often used in combination with the 3-D Reasoning Test.
- When To Use It:** The Form Pattern Perception Test should be used to assess appropriateness for design work where the individual must visualize how shapes and patterns fit together to form a whole (e.g., architectural drawings, equipment design) as well as for jobs that require dismantling and re-assembly (e.g., machine setup, mechanical troubleshooting).
- Target Group:** We recommend using this test for positions such as: maintenance technician, mechanic, machine designer, architect, draftsman, CAD technicians, pattern designers, tool and die makers.
- High Scorers:** People scoring high on the Form Pattern Perception Test are better able to see how parts fit together, so they are quicker and more capable in accomplishing tasks.
- Low Scorers:** People scoring low on the Form Pattern Perception Test may not be able to perform the same tasks as high scorers. They may not be able to figure out the relationships of how objects fit together, so their efforts to do troubleshooting or design work may be exceedingly long – they often need assistance from other workers to complete their assignment.
- Number of Items:** 24
- Time Limits:** 7 minutes
- Validity:** On average, this test is significantly related  $r=.36^{**}$  with productivity for maintenance technicians,  $r=.31^{**}$  for overall performance ratings;  $r=.26^{**}$  for openness to new learning;  $r=.28^{**}$  with skills competence.

### Sample Items

A target figure is shown on the left with a set of five answer figures (A, B, C, D, E) on the right. As with Example 1, some of the target figures are separate parts – here the answer choices will be solid objects. As with Example 2, the target figure is a solid part, so the answer choices are separate parts. Your task is to determine which one of the answer figures is the correct match for the target figure.



## FORMS COMPREHENSION TEST

- Purpose:** This test assesses the simple reading skills typical of entry-level jobs where the documents are fact-based and require little, if any, interpretation.
- When To Use It:** The Forms Comprehension Test should be used in place of a more complex reading test.
- Target Group:** We recommend using this test for positions such as warehouse, inventory control, data entry clerks, shipping & receiving.
- High Scorers:** People scoring high on Forms Comprehension Test demonstrate a minimum level of reading comprehension.
- Low Scorers:** People scoring low on the Forms Comprehension Test are probably barely literate or they may have such low mental ability that they are simply extremely slow to perform simple mental tasks.
- Number of Items:** 40
- Time Limits:** 3 minutes
- Validity:** This test was significantly correlated  $r=.28^*$  with job skills competencies, and  $r=.26^*$  with overall job performance for a variety of industrial jobs.

### Sample Items

In this test the candidate has access to two forms. Then you will have to answer questions about the information you read off those forms. The task is to look up the information on the form, then write in the correct information on the appropriate line on the answer sheet.

### Shipping Order

Order #	SHIPPING DATE	STOCK #	CARRIER
112000	9/15/95	ZBD26854	101
112001	9/16/95	ANS26444	102
112002	9/18/95	ZCY66429	104
112003	9/20/96	BCP53976	105

### Sample questions:

- For Order 112000, Stock # = \_\_\_\_\_
- For Order 112000, Carrier = \_\_\_\_\_
- For carrier 104, Shipping Date = \_\_\_\_\_

## GENERAL COGNITIVE APTITUDE TEST

- Purpose:** This test provides a fairly quick, easy to administer test of general mental ability. Like most general intelligence tests, it taps verbal reasoning, numerical reasoning, and general abstract reasoning.
- When To Use It:** We often use this test as an additional component to our Personal Style Inventory (that measures personality traits), where we need an untimed measure of cognitive aptitude.
- Target Group:** This test can be used with any type candidate.
- High Scorers:** High scorers are quick to pick up new information, are alert to new ideas that might be applied to their jobs, are capable of grasping difficult concepts on their own, handle a large fund of information, deal with various forms of complexity in a job with ease, and are able assess relevant factors in ambiguous situations to come up with logical, insightful decisions.
- Low Scorers:** Low scorers need structured learning experiences to consume new information. They need rules and procedures to guide their decision making on the job. Preferring jobs with narrow assignments and responsibilities, low scorers do not cope well with complexity or volume of information.
- Number of Items:** N=44 items which are fairly equally divided between verbal reasoning, numerical reasoning, and abstract reasoning.
- Time Limits:** Untimed
- Validity:** In various validation studies, this test is correlated with overall job performance for engineers ( $r=.42^{**}$ ), for banking professionals ( $r=.31^{**}$ ), for insurance professionals ( $r=.29^{**}$ ), managers ( $r=.42^{**}$ ), store managers ( $r=.39^{**}$ ), restaurant managers ( $r=.37^{**}$ ), technical support ( $r=.32^{**}$ ), customer service ( $r=.27^{**}$ ), MIS professionals ( $r=.35^{**}$ ), general professional jobs ( $r=.28^{**}$ ), and ( $r=.38^{**}$ ) with sales positions. The test correlates highly ( $r=.74^{**}$ ) with the Wonderlic Personnel Test, and ( $r=.76^{**}$ ) with MAB-Full Scale. (MAB is the Multiple Aptitude Battery), ( $r=.70^{**}$ ) with the Otis Lennon Intelligence Test, and ( $r=.72^{**}$ ) with the Resource Associates General Reasoning Test.

**Sample verbal reasoning item:**

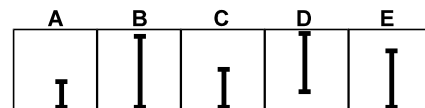
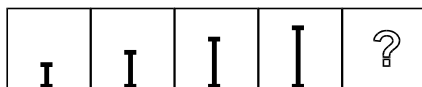
House is to dwelling as car is to \_\_\_\_\_. (a) transportation (b) traveling (c) speed (d) automobile (e) mechanical

**Sample numerical reasoning item:**

Which comes next in this series? 3 6 9 19 22 25  
(a) 32 (b) 35 (c) 52 (d) 15 (e) 28

**Sample abstract reasoning item**

Which figure would come next in the series?



## GENERAL REASONING TEST

- Purpose:** This test provides a fairly quick, easy to administer test of general mental ability. Like most “omnibus” general intelligence tests, it taps several types of reasoning: verbal reasoning, numerical reasoning, logic, math skills, spatial reasoning, and basic knowledge. It is designed to give a single measure of mental ability based on several types of mental processes.
- When To Use It:** This quick timed measure of general mental ability that provides one score this is the right choice.
- Target Group:** This test can be used with any type candidate.
- High Scorers:** High scorers are quick to pick up new information, are alert to new ideas that might be applied to their jobs, are capable of grasping difficult concepts on their own, handle a large fund of information, deal with various forms of complexity in a job with ease, and are able assess relevant factors in ambiguous situations to come up with logical, insightful decisions.
- Low Scorers:** Low scorers need structured learning experiences to consume new information. They need rules and procedures to guide their decision making on the job. Preferring jobs with narrow assignments and responsibilities, low scorers do not cope well with complexity or volume of information.
- Number of Items:** N=50 multiple choice items.
- Time Limits:** 12 minutes
- Validity:** The test correlates highly ( $r=.76^{**}$ ) with the Wonderlic Personnel Test,  $r=.83^{**}$  with MAB-Verbal,  $r=.91^{**}$  with MAB-Performance, and  $r=.91^{**}$  with MAB-Full Scale. (MAB is the Multiple Aptitude Battery). It also correlates  $r=.72^{**}$  with the Resource Associates Cognitive Aptitude Test,  $r=.36^{**}$  with the B scale on the 16PF,  $r=.86^{**}$  with the Otis Lennon Mental Ability Test, and  $.90^{**}$  with college grade point average (i.e. academic achievement). These data are solid evidence that the predictive power of scores on the General Reasoning Test is very similar to other tests of general mental ability, thus demonstrating convergent validity.

### Sample verbal reasoning item:

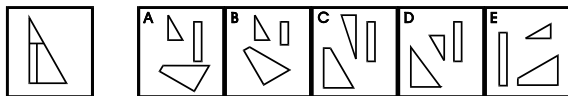
House is to dwelling as car is to \_\_\_\_\_. (a) transportation (b) driving (c) speed (d) automobile (e) mechanical

### Sample numerical reasoning item:

Which comes next in this series? 3 6 9 19 22 25  
 (a) 32 (b) 35 (c) 52 (d) 15 (e) 28

### Sample spatial reasoning item

Look at the complete figure on the left. Which is the 5 choices represents all of the parts separately?



**Sample Logic item:** Assume the first two statements are true. Is the last statement (a) True (b) False (c) Uncertain.

- All job candidates have to take a pre-employment test.
- Some of the people in the room are job candidates.
- The people in the room will have to take pre-employment tests.

## GRAMMAR & SPELLING TEST

<b>Purpose:</b>	This test assesses simple grammar and spelling skills.
<b>When To Use It:</b>	It should be used when staff are preparing or proofing documents to be sent to clients or vendors.
<b>Target Group:</b>	We recommend using this test for positions such as secretary, clerical support staff, administrative support staff, etc.
<b>High Scorers:</b>	People scoring high on Grammar & Spelling Test should be able to spot and correct grammar & spelling mistakes.
<b>Low Scorers:</b>	People scoring low on this test may not notice various grammar or spelling mistakes or they may not know the underlying language use rules. They allow documents to leave your office with numerous flaws, thereby embarrassing your company and causing you to lose credibility with clients.
<b>Number of Items:</b>	25 sentences with several points each.
<b>Time Limits:</b>	Untimed
<b>Scoring</b>	This test has not yet been normed on a group of administrative staff. Ideally, you would want someone to score close to 100% correct. For now, the scores are presented in terms of percent correct, rather than any comparison with other similar workers.

### Sample Item

EXAMPLE (Paper-and-Pencil version): Their is usually alot of snowfall in january.

In this example, there are 4 errors. "Their" should be changed to "there," "alot" should be changed to "a lot," and "january" should have a capital "J" and should be spelled "January." Make corrections by circling the mistake and writing the correction in the space above it. Be sure to make all corrections legible and clear. There is **no time limit** on this test, but you should use your time wisely and work efficiently.

EXAMPLE: (Online Version)

\_\_\_\_\_ is usually \_\_\_\_\_ of snow in \_\_\_\_\_.

- A) Their.....alot.....january
- B) There.....alot.....January
- C) Their.....a lot.....January
- D) There.....a lot.....January

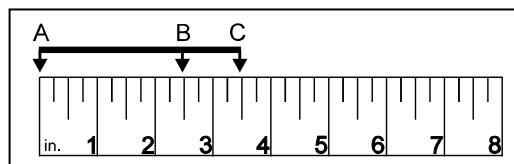
## MATH TEST FOR INDUSTRY (VER 2)

- Purpose:** This test contains math problems that are often found in industrial settings. It measures ability to solve word problems, reading graphs, measuring, and analyzing graphical measurement problems. Difficulty level is approximately ninth grade competency.
- When To Use It:** The test should be used when employees must use math skills to solve various problems of a technical nature, particularly when the problems require reasoning, and the solutions cannot necessarily be learned by rote memorization.
- Target Group:** We recommend using this test for positions such as: entry-level industrial workers, manufacturing professionals, shipping and receiving personnel, technical maintenance workers, lab assistants, Quality Control personnel.
- High Scorers:** People scoring high on the Math Test for Industry tend to be efficient in handling their duties. They can work independently to solve fairly complex quantitative problems and they tend not to make many math or math reasoning errors.
- Low Scorers:** People scoring low on this test do not profit well from instruction on how to solve basic math problems in the work place. They are easily confused by math problems and tend to depend on others to handle these aspects of the job.
- Number of Items:** 40
- Time Limits:** 15 minutes
- Validity:** On average, this test was found to be significantly related  $r=.22^*$  with productivity;  $r=.27^*$  with quality;  $r=.31^{**}$  with overall job performance  $r=.41^{**}$  with teamwork;  $r=.37^{**}$  with safety;  $r=.23^*$  with attendance;  $r=.26^*$  with relations with peers;  $r=.46$  with productivity;  $r=.39^*$  with safety;  $r=.38^{**}$  with reasoning ability;  $r=.29^{**}$  with skills competence,  $r=.32^{**}$  openness to new learning.

### Sample Items

1. What is the weight of a case of 10 mufflers if each muffler weighs 32 pounds?
2. What will an employee make if there were 40 hours worked at \$8.50 per hour, plus 6 hours worked at \$11.25 / hour?
3. What is the overall length of 2 panels where each is  $2 \frac{3}{4}$  feet long?

4. What is the length of line BC?



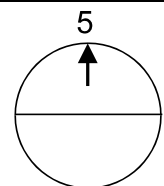
## MATH TEST FOR MACHINE SETUP POSITIONS

- Purpose:** This test contains math problems that are often found in industrial settings. It measures ability to solve basic arithmetic (adding, subtracting, multiplying and dividing) decimals, ranges, metric measurement, and analyzing graphical - math reasoning problems. Difficulty level is approximately ninth grade competency.
- When To Use It:** The test should be used when employees must use math skills to solve various problems of a technical nature, typically ones that require math competence for advanced mechanical functions.
- Target Group:** We recommend using this test for positions such as: Machine Setup, Maintenance Technicians, etc.
- High Scorers:** People scoring high on the Math Test for Setup Positions tend to be efficient in handling their duties. They can work independently to solve fairly complex quantitative problems and they tend not to make many math or math reasoning errors.
- Low Scorers:** People scoring low on this test do not profit well from instruction on how to solve basic math problems in the work place. They are easily confused by math problems and tend to depend on others to handle these aspects of the job.
- Number of Items:** 40
- Time Limits:** 15 minutes
- Validity:**

### Sample Items

1.	$14 + 28 =$
2.	$59 - 14 =$
3.	$12 \times 125 =$
4.	$135 \div 15 =$
5.	$2.11 + .078 =$
6.	Which number is larger? 0.159 OR 1.520
7.	Is 12 within the range of $10 \pm 3$

Shown to the right is a dial that is pointing to a setting of 5. You can increase the setting by turning it to the right. Or you can decrease the setting by turning it to left. One quarter turn ( $1/4$ ) equals a .02 change in the setting,



8. How many quarter turns are required to achieve a setting of 5.08?  
 9. Which direction would you turn the dial. \_\_\_\_\_ Left \_\_\_\_\_ Right



## MATH TEST FOR MATH TEST FOR TELEMARETERS

- Purpose:** This test contains math problems that require arithmetic skills and numerical reasoning to solve basic retail pricing questions.
- When To Use It:** The test should be used when employees must remember pricing schedules, make calculations, and then give a customer a price that is based on a unique combination of products or services, discounts, late fees, and special promotions.
- Target Group:** We recommend using this test for positions such as: Customer Service, Telemarketing Customer Service, Telephone Sales.
- High Scorers:** People scoring high on the Math Test for Telemarketing tend to be efficient in handling customer requests for pricing based on their unique needs.
- Low Scorers:** People scoring low on this test do not profit well from instruction on how to solve basic math problems in the work place. They are easily confused by math problems and tend to take a long time to figure out answers. Low scorers also make a lot of mistakes.
- Number of Items:** 12
- Time Limits:** 10 minutes
- Validity:** In a validation study of telemarketing / sales / customer service representatives, the math test was correlated  $r=.42$  with general ability on the job. And, using a composite aptitude score comprised of a CSR math and CSR reading test, there was a ten-fold difference in the in the scores when you compared the percentage of employees rated Superior Performers.

### Sample Question

The following monthly service rates for advance purchase of service apply to the problems below:

- (a) Less than three months = \$10.75 per month.
  - (b) From three months or more, but less than six months = \$9.95 per month.
  - (c) From six months or more, but less than one year = \$9.45 per month.
  - (d) For one year or more = \$8.95 per month.
  - (e) Late fee of 15% applies to overdue bills.
  - (f) Charges are prorated for a partial month's use of the service.
  - (g) New Customer account setup fee is \$25
1. Charles Appleton has an outstanding bill of \$34.95. A late fee is also due on this bill because it is 15 days overdue. How much does Charles owe all together? \$\_\_\_\_\_
  2. A first time customer, Seth Lassiter wishes to purchase exactly five and one-half months of service. How much will Seth be billed? \$\_\_\_\_\_



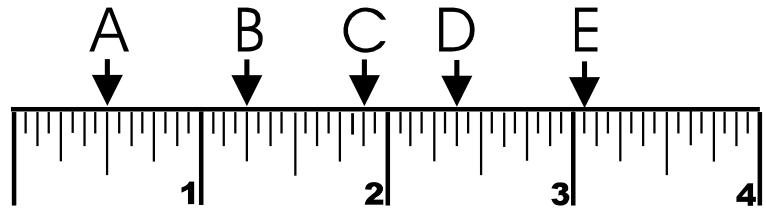
## MEASUREMENT MATH TEST

<b>Purpose:</b>	This test measures someone knowledge of how to use an inches ruler and a centimeter ruler.
<b>When To Use It:</b>	The test should be used when employees must use rulers to measure things and to do simple math problems using rulers.
<b>Target Group:</b>	We recommend using this test for positions such as: entry-level industrial workers, manufacturing professionals, construction workers, etc.
<b>High Scorers:</b>	People scoring high on this test understand how to measure in inches or centimeters.
<b>Low Scorers:</b>	People scoring low on this test need remediation in how to use a ruler.
<b>Number of Items:</b>	20
<b>Time Limits:</b>	Untimed
<b>Validity:</b>	Content validity based on Subject Matter Expert reports of job content.  Scores are reported as "Percent Correct."

### Sample Items

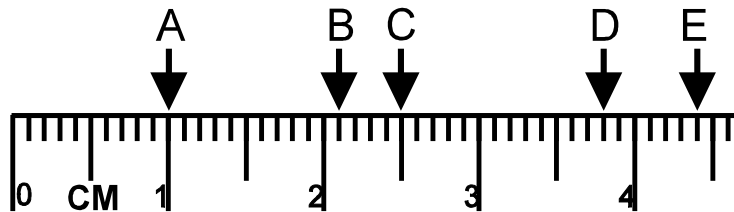
Using the inches ruler to the right, what is the distance between point A and point B?

- a.  $1/2$  inch
- b.  $3/4$  inch
- c.  $3/8$  inch
- d.  $5/8$  inch
- e.  $6/16$  inch



Using the metric ruler to the right, what is the distance between point B and point C?

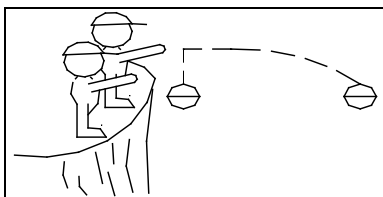
- a. .1 centimeter
- b. 2 centimeters
- c. 3 centimeters
- d. 4 centimeters
- e. .4 centimeters



## MECHANICAL REASONING TEST (ver. Nel2)

- Purpose:** This test assesses understanding of basic physical and mechanical principles and their application to everyday situations.
- When To Use It:** The Mechanical Reasoning Test should be used where employees work around large equipment, where they are expected to understand basic operations and to engage in limited troubleshooting of equipment failures.
- Target Group:** We recommend using this test for a wide range of positions from entry-level production associates to higher level maintenance workers in industrial settings.
- High Scorers:** People scoring high on this test tend to pick up new information in a job orientation program more quickly. They profit from formal instruction and demonstrate a higher ability to apply what they have learned in on-the-job applications. They are the employees that you tend to give additional responsibility for the more complicated equipment – particularly those that have multiple systems and computer interface.
- Low Scorers:** People scoring low on the Mechanical Reasoning Test tend to have a great deal of difficulty learning new things about equipment operations, preventive maintenance and more complicated mechanical troubleshooting. They are less likely to be able to take on full responsibility for automated equipment and they tend to ask a lot of questions about simple problems. Low scorers on the Mechanical Reasoning Test are more likely to behavior that could lead to an accident and to persist in activities that are inefficient methods of solving equipment problems.
- Number of Items:** 68 questions
- Time Limits:** 20 minutes
- Validity:** This test was developed through an iterative process using the expertise of multiple degreed engineers with experience in manufacturing. In various validation studies, this test has found to significantly related  $r=.40^{**}$  with composite job performance;  $r=.33^{**}$  with teamwork,  $r=.24^*$  with task competence,  $r=.31^{**}$  with overall performance;  $r=.20^*$  with productivity;  $r=.27^{**}$  with openness to training and dealing with change;  $r=.19^*$  with safety mindedness;  $r=.29^{**}$  with teamwork;  $r=.35^{**}$  with relations with supervisors;  $r=.28^{**}$  with overall job performance;  $r=.26^{**}$  with decrease in turnover among production workers;  $r=.28^{**}$ ; job knowledge  $r=.32^{**}$  with reasoning skills and judgment;  $r=.28^{**}$  with planning ability;  $r=.37^{**}$  with ability to learn;  $r=.39^{**}$  with reasoning ability;  $r=.30^{**}$  with skills competence;  $r=.32^{**}$  with openness to new learning;  $r=.25^*$  with productivity;  $r=.18^*$  with attendance;  $r=.25^{**}$  average performance rating. In a test of convergent validity, the Resource Associates Mechanical Reasoning Test was correlated  $r=.81^{**}$  with the Bennett Mechanical Test.

### Sample Item



One ball is dropped while the other is simultaneously thrown horizontally out. Which ball will hit the ground first?

- A. Dropped ball
- B. Thrown ball
- C. Same

## NUMERICAL REASONING TEST

<b>Purpose:</b>	This test is an excellent measure of basic numerical reasoning ability, and it measures the degree to which people can work comfortably with quantitative concepts.
<b>When To Use It:</b>	Use this test in situations where people need to think through math problems on the job: for example sales people who have to think through quotes in their head as they talk to a customer, or customer service people who need to quickly calculate the cost of a set of services that have been tailored to that individual request, or accountants / banking people who need to be very agile in computing large sets of numbers, as well as quick to spot errors, and sharp about looking for causes of imbalances.
<b>High Scorers:</b>	People scoring high on this test handle their responsibilities for quantitative tasks quickly, easily and with a minimum of errors, plus they can deal with a very high level of quantitative complexity.
<b>Low Scorers:</b>	People scoring low on this test have a harder time thinking through quantitative problems than do people with higher scores. They do not spot inaccuracies very quickly and they do not reason through the causes of problems in the dataset as quickly as others.
<b>Target Group:</b>	We often recommend using this test for technical professionals such as engineers, computer programmers, accounting personnel, estimators, field sales people, managers / supervisors as well as jobs like buyers, finance clerks, bank tellers and loan officers.
<b>Number of Items:</b>	24
<b>Time Limits:</b>	6 minutes
<b>Validity:</b>	In several empirical studies, this test was significantly correlated $r=.30$ with task performance, and $r=.29$ with overall performance in a number of entry-level jobs. We were able to demonstrate that performing well on this test predicted success in managerial roles when scoring more than the 60 <sup>th</sup> percentile produced a group that was 300% more likely to survive the first year on the job.

**Sample Items:** In this test, candidates are presented with a series of numbers. Each series of numbers is followed by a question mark, because the last number is missing. They have to figure out what sort of pattern exists in the series of numbers and what number would most logically appear next in the series.

Sample Item	Sample Answers
1   3   6   8   11   ?	A. 12 B. 13 C. 16 D. 22 E. correct answer not given

## NUMERICAL COMPUTATION TEST

<b>Purpose:</b>	This test measures ability to do basic arithmetic, including decimals and fractions.
<b>When To Use It:</b>	The test should be used when employees must use math skills to compute total sales, discounts, refunds, etc. when access to a computer-based system is not always available, or when the employee is expected to hand punch numbers into a calculator to obtain the final answer.
<b>Target Group:</b>	We recommend using this test for positions such as: retail clerks, finance clerks, customer service representatives.
<b>High Scorers:</b>	People scoring high on this test are usually faster in completing their duties and they make fewer mistakes.
<b>Low Scorers:</b>	People scoring low on this test are slower to complete their duties. They make more mistakes which then takes extra time to resolve. Plus, their mistakes slow down the work of other employees in your company.
<b>Number of Items:</b>	50
<b>Time Limits:</b>	6 minutes
<b>Validity:</b>	On average, this test is significantly related $r=.30^{**}$ with composite job performance ratings; $.22^*$ with productivity; $r=.24^*$ with dependability; $r=.28^{**}$ with ability to work under stress; $r=.20^*$ with productivity; $r=.28^*$ with new learning; $r=.37^{**}$ with quality; $r=.23^*$ with teamwork; $r=.29^{**}$ with overall job performance rating.

### Sample Items:

- 1)  $12 + 9 =$  \_\_\_\_\_
- 2)  $87 - 25 =$  \_\_\_\_\_
- 3)  $1/9$  of 45 = \_\_\_\_\_
- 4) 20% of \$130 = \_\_\_\_\_

# PATTERN SERIES TEST OF ABSTRACT REASONING

- Purpose:** This test is an excellent measure of basic mental ability. We recommend it be included whenever a company is designing an aptitude test battery.
- When To Use It:** The Pattern Series Test of Abstract Reasoning is one of our best tools for predicting how fast people can learn new ideas, grasp difficult concepts, and utilize the knowledge they have been taught in a meaningful, insightful manner. If your company utilizes high tech equipment, then you need people who can reason well, learn quickly, and reason through complex problems on the job.
- High Scorers:** People scoring high on the Pattern Series Test profit from instruction and perform at a high level on mentally challenging tasks. They tend to move quickly into the more demanding jobs in your company. High scorers also continue to grow and mature as your company's processes change.
- Low Scorers:** People who do not score well on the Pattern Series Test tend to have trouble with tasks that require reasoning. Low scorers are hard to train because they require a lot of focused, supervised assistance from a supervisor or mentor. They also have difficulty applying what they have learned in formal training sessions. Complex problems tend to be incomprehensible to them, so they either guess, make a lot of mistakes, or call for help from someone more experienced and knowledgeable.
- Target Group:** We recommend using this test for every job category where mental ability is an important aspect of overall performance.
- Number of Items:** 40
- Time Limits:** 20 minutes
- Validity:** This test was found to significantly related  $r=.42^{**}$  with teamwork,  $r=.38^{**}$  with task proficiency,  $r=.40^{**}$  with overall performance,  $r=.42^{**}$  productivity;  $r-.41^{**}$  with work quality;  $r=.35^{**}$  with decrease in involuntary turnover;  $r=.52^*$  with productivity;  $r=.52^*$  with attendance;  $r=.41^{**}$  with openness to new learning;  $r=.26^{**}$  with integrity;  $r=.39^{**}$  with ability to learn;  $r=.31^{**}$  with judgment;  $r=.29^{**}$  with proper use of time;  $r=.43^{**}$  with reasoning ability;  $r=.32^{**}$  with skill competence;  $r=.26^{**}$  with dependability / reliability.

## Sample Items

For each of the problems in this test, candidates are presented with a series of figures on the left side of the page. The last frame has a question mark indicating that they are to decide what figure would come next in the series. Five possible answers are given on the right side of the page. The task is to choose a figure from the answer choices on the right that represents the best choice for the "next one" in the series.

1.	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;">I</td> <td style="width: 20px; height: 20px;">I</td> <td style="width: 20px; height: 20px;">I</td> <td style="width: 20px; height: 20px;">I</td> <td style="width: 20px; height: 20px;">?</td> </tr> </table>	I	I	I	I	?	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;">A</td> <td style="width: 20px; height: 20px;">B</td> <td style="width: 20px; height: 20px;">C</td> <td style="width: 20px; height: 20px;">D</td> <td style="width: 20px; height: 20px;">E</td> </tr> <tr> <td style="text-align: center;">I</td> <td style="text-align: center;">I</td> <td style="text-align: center;">I</td> <td style="text-align: center;">I</td> <td style="text-align: center;">I</td> </tr> </table>	A	B	C	D	E	I	I	I	I	I
I	I	I	I	?													
A	B	C	D	E													
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## PERCEPTUAL SPEED AND ACCURACY TEST (VER.2)

- Purpose:** This test uses a classic approach to measuring a person’s ability to read quickly, compare sets of information, and make a simple decision.
- When To Use It:** The Perceptual Speed & Accuracy Test can be used with good results where the position requires a lot of paperwork, and where both processing speed and minimizing errors are important.
- Target Group:** We recommend using this test for positions such as secretary, administrative assistant, inventory control personnel, shipping & receiving clerk, accounting personnel, finance clerk.
- High Scorers:** People scoring high on the Perceptual Speed & Accuracy Test are quick and they do not make many errors.
- Low Scorers:** People scoring low on the Perceptual Speed & Accuracy Test are somewhat slow in completing their work and they tend to make more errors than you probably expect.
- Number of Items:** 150
- Time Limits:** 7 minutes
- Validity:** In several empirical studies, this test was significantly correlated  $r=.28^{**}$  with productivity;  $r=.21^*$  with quality;  $r=.24^*$  with safety;  $r=.24^*$  with teamwork;  $r=.24^*$  with dependability;  $r=.33^{**}$  with attendance;  $r=.31^{**}$  with overall job performance in a variety of entry level jobs.

### Sample Items:

In this test, candidates are asked to look at a list of numbers, letters, or symbols. Their task is to look at each pair and decide which ones are the same and which ones are different.

- When the pair of numbers/letters is the same, click **Yes**
- When the pair of numbers/letters is not the same, click **No**

	Left Side	Answers	Right Side
1.	4556	Yes No	4556
2.	NM345559	Yes No	NN345559
3.	FJK898999	Yes No	FJK898999
4.	2323	Yes No	2332
5.	#-45778	Yes No	#-45778

## READING COMPREHENSION TEST

- Purpose:** This test assesses reading comprehension for typical written materials found in many companies.
- When To Use It:** The Reading Comprehension Test should be used when employees are expected to be able to read and interpret training materials, MSDS information, company policies, customer correspondence, company memos.
- Target Group:** We recommend using this test for a wide range of positions from entry-level associates to supervisory personnel.
- High Scorers:** People scoring high on this test demonstrate good comprehension of what they read and they make reasonable judgments and decisions based on what has been communicated in the written documents. High scorers are also fast readers, so they have little difficulty with written materials. They tend to make use of available written materials so that they can be well informed about pertinent information in the company. High scorers respond well to formal training. They also solve problems on their own because they can access written information in policy manuals and equipment instructions.
- Low Scorers:** People scoring low on the Reading Comprehension Test may not be able to grasp written materials very well, or they may be very slow to comprehend print matter. Consequently, they tend not to put much time or effort into reading company documents, thus they often remain ignorant of information that managers feel has already been communicated. Low scorers tend to rely on others to solve problems -- lacking the resources to solve new or non-standard problems, they ask more experienced people for answers they could have obtained on their own.
- Number of Items:** 6 passages with 4-6 questions each
- Time Limits:** 16 minutes
- Validity:** On average, this test is significantly related  $r=.28^{**}$  with ability to get along with coworkers;  $r=.21^{*}$  with overall performance;  $r=.37^{**}$  with ability to learn;  $r=.36^{**}$  with reasoning ability;  $r=.24^{*}$  with skills competence;  $r=.28^{**}$  with openness to new learning;  $r=.29^{**}$  overall performance rating.

### ***Sample Items***

Most auto mechanics advise allowing your car to idle for only about 30 seconds -- even on cold mornings. Racing or idling a cold car (one that hasn't run for at least four hours) causes as much as 90 percent of all mechanical wear in the engine. The main reason for the wear is that very little lubrication is flowing yet and the metal parts rub against each other and begin to wear out. Idling also uses gas unnecessarily.

#### Sample Questions:

1. What percent of engine wear is caused by idling a cold car?
2. When starting your engine in the morning, how long should you allow it to idle?
3. Why does idling a cold car cause engine wear?

#### Answers to Sample Questions:

1. 90%
2. About 30 seconds
3. Because only a little lubrication is flowing and the metal parts rub against each other.



## READING COMPREHENSION TEST FOR CSRs and Telemarketers

<b>Purpose:</b>	This test assesses reading comprehension for the types of materials often used by CSRs and Telemarketers.
<b>When To Use It:</b>	This test should be used when the CSR / Telemarketers will have to comprehend a lot of written material in order to communicate it to customers or to recall information for problem solving.
<b>Target Group:</b>	We recommend using this test for a wide range of positions that require interface with other people.
<b>High Scorers:</b>	People scoring high on this test demonstrate good comprehension of what they read and they make reasonable judgments and decisions based on what has been communicated in the written documents. High scorers are also fast readers, so they have little difficulty with written materials. They tend to make use of available written materials so that they can be well informed about pertinent information in the company. High scorers respond well to formal training. They also solve problems on their own because they can access written information in policy manuals and equipment instructions.
<b>Low Scorers:</b>	People scoring low on this test may not be able to grasp written materials very well, or they may be very slow to comprehend print matter. Consequently, they will have difficulty grasping the information presented in your memos, and they will probably do poorly with suggestive selling or problem solving with customers. Not being able to grasp all the information they need to do their jobs, these employees will find your jobs very stressful and overwhelming, thus creating turnover.
<b>Number of Items:</b>	Nine sample company memos with 25 simple fill-in-the-blank questions.
<b>Time Limits:</b>	17 minutes
<b>Validity:</b>	This test is related to general ability ( $r=.42^{**}$ ), social performance ( $r=.32^{**}$ ) and selling ( $r=.28^{**}$ ).

### **SAMPLE MEMO**

To: All Customer Service Representatives  
 From: Personnel  
 Re: Year End Bonuses  
 Date: 12/15/00

All employees with at least ten years of company service with Premiere Cable will receive a \$1,000 bonus. Employees with less than ten years of company service will receive a holiday turkey. The bonuses will be awarded at the annual Christmas Dinner. This year, the Christmas Dinner will be held at the Marriott Hotel (downtown) on December 21, 2000. Thanks for being a valuable part of the team.

### **SAMPLE QUESTIONS**

1. If you have twelve years of service, what will your year end bonus be?
2. Where will the Christmas Dinner be held?
3. Who will get a holiday turkey at the Christmas Dinner?

### **SAMPLE ANSWERS**

1. \$1,000
2. Marriott Hotel (downtown)
3. Employees with less than 10 years company service.



## RETAIL SALES MATH APTITUDE TEST

- Purpose:** This test uses the Cable TV industry as the setting to assess the basic math skills typical of many sales and customer service jobs. It measures skills in addition, subtraction, percents, fractions, and word problems using the same math operations.
- When To Use It:** The Sales Math Aptitude Test should be used where employees must calculate prices of odd lots of products or services, where employees must be adept at working through problems in their head or by use of a hand calculator, and where they must work quickly.
- Target Group:** We recommend using this test for positions such as field sales representative, customer service representative, sales clerk, account executive, telemarketer.
- High Scorers:** People scoring high on the Sales Math Aptitude Test should perform the quantitative aspects of their job more quickly with a minimum of mistakes.
- Low Scorers:** People scoring low on the Sales Math Aptitude Test are likely to make a lot of mistakes in calculating pricing for customers. This translates to low productivity because they either require the customer to wait an inordinately long time before completing the transaction or because the Accounting Department must correct many of the errors made by this person.
- Number of Items:** 56
- Time Limits:** 16 minutes (4 minutes for each of 4 sections)
- Validity:** On average, this test is related  $r=.23^*$  with productivity for telephone sales representatives;  $r=.25^{**}$  with overall job performance.

### Sample Items

In this test the candidate must work several types of math problems: addition, subtraction, fractions, percentages and word problems.

1.  $\$15.50 + 21.95 =$  \_\_\_\_\_
2.  $\$45.50 - \$13.95 =$  \_\_\_\_\_
3. 12% of  $\$32.00 =$  \_\_\_\_\_
4.  $\frac{1}{3}$  of  $\$68 =$  \_\_\_\_\_
5. Mary Carter's existing services cost  $\$29.95$ . Now, she wants two additional converter boxes and three pay-per-view movies. The converter boxes are  $\$7.95$  each and pay-per-view movies are  $\$6.95$  each.  
What will her bill total next month? \_\_\_\_\_

## SPELLING TEST

- Purpose:** This test evaluates the degree to which someone can identify commonly misspelled words.
- When To Use It:** This test would be appropriate wherever employees need to be able to spot and correct misspellings.
- Target Group:** People involved in most types of clerical tasks where documents are prepared and need to be proofed before being finalized.
- High Scorers:** People scoring high are more likely to spot commonly misspelled words and make corrections.
- Low Scorers:** People scoring low on this Spelling Test will create spelling errors themselves. When checking others' work, they will be less likely to spot problems that Word Processing programs do not pick up.
- Number of Items:** 200. Most of the items simply present pairs of words, from which the candidate must select the correct one. There are also 13 sentences with embedded blanks from which the candidate must choose between two homonyms (two words that sound alike but are spelled differently depending on the meaning).
- Time Limits:** There is no time limit.
- Validity:** This test is based on Content Validity. Several books and internet sites that listed misspelled words were used to prepare this list. Scores are presented in terms of "Percent Correct."

### Sample Items

In this test, the candidate will look at a pair of words where one is spelled correctly and the other is not. An X is to be placed by the correct choice.

Here are three examples:

1.	Apparent	X		Apparant
2.	Exilarate		X	Exhilarate
3.	Mispelled		X	Misspelled

The sentences with embedded blanks are similar to the following.

She wanted to \_\_\_\_\_ her friend's offer to do most of the driving, \_\_\_\_\_ her insurance would not allow it.  
 (a) accept, except (b) accept, except

## STOCK PICKING TEST

<b>Purpose:</b>	This test serves as a measure of clerical speed and accuracy, plus it has high face validity for job candidates.
<b>When To Use It:</b>	This test is appropriate where employees have to use a small amount of judgment in locating stock numbers from inventory.
<b>Target Group:</b>	We recommend using this test for many warehouse, inventory, and production associate positions.
<b>High Scorers:</b>	High scorers are usually fast and accurate in how they perform their work.
<b>Low Scorers:</b>	People scoring low tend to be slow in locating stock from inventory and/or they tend to make more mistakes.
<b>Number of Items:</b>	60
<b>Time Limits:</b>	4 minutes
<b>Validity Info</b>	This test was validated in two different studies with production workers who also worked in a warehouse picking stock, as well as one study for warehouse workers. On average, validity coefficients for learning ability, $r=.34^{**}$ , for reasoning / problem solving ability, $r=.29^{**}$ ; for skills competence, $r=.27^{**}$ , productivity $r=.24^{**}$ , and overall supervisor rating $r=.26^{**}$ .

### Sample Items

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>1</b>	YUI4444 – YUI4485	72P16 – 72P35	N34K26 – N34K40	72X31 – 72X40
<b>2</b>	YUI4486 – YUI4550	72P36 – 72P50	N34K41 – N34K55	72Y41 – 72Y50
<b>3</b>	YUN5310 – YUN5475	72C20 – 72C35	N34K56 – N34K70	72Y51 – 72Y60
<b>4</b>	YUN5476 – YUN5530	72C36 – 72C60	N34K71 – N34K85	72Z61 – 72Z70

Here are four sample items. For the particular part number, you must identify in what bin you would find that part. The first two items have been completed. You can complete the second two items for practice.

	<b>Part Number</b>	<b>Location</b>
1.	YUI4486	2A
2.	N34K30	1C
3.	72Y56	
4.	N34K68	

## TECHNICAL DRAWING TEST

- Purpose:** This test evaluates understanding of mechanical drawings typically used in manufacturing settings.
- When To Use It:** It would be appropriate for a wide range of candidates who would normally work with mechanical / technical drawings / blueprints in their jobs: engineers, machine setup specialists, industrial mechanics, product designers, industrial electricians, welders, machinists, and some construction workers.
- High Scorers:** People scoring high on this test will be able to read complex drawings accurately and quickly.
- Low Scorers:** People scoring low on this test will struggle to read complex drawings and may make mistakes when they do make interpretations.
- Number of Items:** 36 multiple choice questions related to specific technical drawings.
- Time Limits:** 12 minutes
- Validity:** This test was developed by degreed engineers with years of experience in manufacturing equipment, and it has been reviewed by other experts in the engineering field to demonstrate content validity and consensus. Before using this test, we recommend that you review the content of the items to determine its appropriateness in your work environment.

### Sample Items

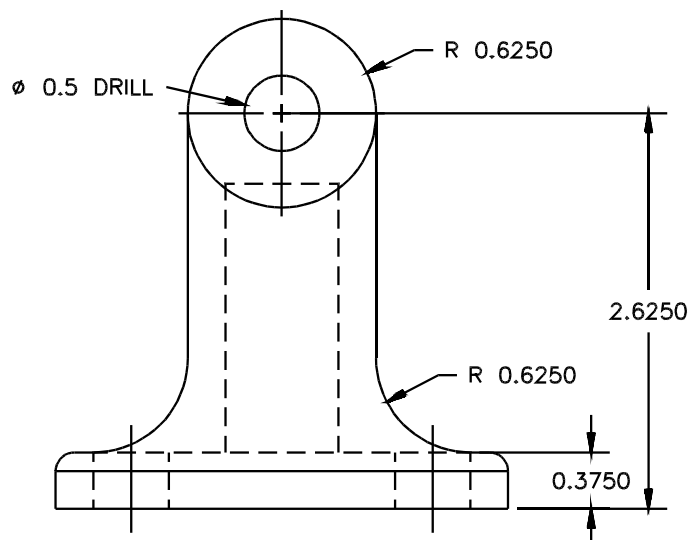
Here are two sample questions. Each relates to the drawing shown on the right.

What is the height from the base to the center of the circle?

- (a) 2.5000      (b) 2.6500  
 (c) 2.6250      (d) none of the above.

What is the radius of the outer circle at the top of the figure?

- (a) 0.5000      (b) 0.6250  
 (c) 0.6200      (d) none of the above.

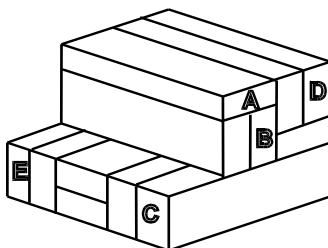


## 3-D SPATIAL REASONING TEST

<b>Purpose:</b>	This test evaluates a person's ability to think in terms of three dimensions and to see how solid objects fit together. It is appropriate for any job where the employee must be able to conceptualize how parts fit together in ways that are unable to be visualized from the surface.
<b>When To Use It:</b>	The 3-D Spatial Reasoning Test should be used to assess fit for jobs where the individual is responsible for taking things apart and putting things together (e.g., machine setup, mechanical troubleshooting), as well as for design work with solid objects that must fit together (e.g., architectural drawings, equipment design)
<b>Target Group:</b>	We recommend using this test for positions such as maintenance technician, mechanic, machine designer, architect, draftsman, CAD technicians.
<b>High Scorers:</b>	People scoring high on the 3-D Spatial Reasoning Test are better able to see how parts fit together, so they are quicker and more capable in accomplishing tasks.
<b>Low Scorers:</b>	People scoring low on the 3-D Spatial Reasoning Test may not be able to perform the same tasks as high scorers. They may not be able to figure out the relationships of how objects fit together, so their efforts to do troubleshooting or design work may be exceedingly long – they often need assistance from other workers to complete their assignment.
<b>Number of Items:</b>	45
<b>Time Limits:</b>	5 minutes
<b>Validity:</b>	On average, this test was found to be significantly related $r=.22^*$ with productivity; $r=.34^{**}$ with quality; $r=.28^*$ with overall job performance rating; $r=.24^*$ relations with supervisor; $r=.22^*$ with stress tolerance; $r=.23^*$ with attendance; $r=.30^{**}$ with ability to learn; $r=.24^{**}$ with teamwork; $r=.20^*$ with judgment; $r=.21^{**}$ with planning ability; $r=.37^{**}$ ability to learn; $r=.24^*$ with skills competence; $r=.39^{**}$ openness to new learning; $r=.22^*$ productivity; $r=.21^*$ dependability / reliability.

### Sample Items

In the pile of blocks shown below, you must look at a specific block, then decide how many other blocks it touches -- on either the top, sides, bottom, or ends. You should not count those blocks where they touch only at the corners. For each lettered block, write in the appropriate number on your answer sheet.



**EXAMPLE 1:** A \_\_\_\_\_  
 B \_\_\_\_\_  
 C \_\_\_\_\_  
 D \_\_\_\_\_  
 E \_\_\_\_\_

## VERBAL REASONING TEST

<b>Purpose:</b>	This test assesses vocabulary and the ability to both understand subtle differences between words and the many ways one can use words to make a point.
<b>When To Use It:</b>	The Verbal Reasoning Test should be used to assess candidates who must be very effective communicators, to inform, persuade, motivate, counsel, or coordinate activities among co-workers, friends, or customers.
<b>Target Group:</b>	We recommend using this test for positions such as sales, manager, supervisor, team leader.
<b>High Scorers:</b>	People scoring high on the Verbal Reasoning Test are more effective communicators. They are better able to explain their points and respond more appropriately to others in a conversation. High scorers tend to be good at communicating with all levels of people – from executives to members of the general public.
<b>Low Scorers:</b>	People scoring low on the Verbal Reasoning Test are less effective at making their points and responding to others in a conversation. Low scorers tend to be effective in communicating with only a narrow group of people – those who are similar to themselves.
<b>Number of Items:</b>	26
<b>Time Limits:</b>	12 minutes
<b>Validity:</b>	In several empirical studies, this test was significantly correlated $r=.26^*$ with teamwork, $r=.29^{**}$ with customer service, $r=.25^*$ with overall performance for a variety of entry-level jobs. We were able to demonstrate that performing well on this test predicted success in managerial roles when scoring more than the 60 <sup>th</sup> percentile produced a group that was 300% more likely to survive the first year on the job.

### Sample Items

The items on this test have two blanks. The candidate must select words that would go in the blanks so that the sentence will make sense.

<p>1. _____ is to boat as _____ is to car.</p> <p>1. push    2. pedal    A. haul    B. pull 3. row    4. roll    C. tilt    D. drive</p>	<p>2. _____ is to head as glove is to _____.</p> <p>1. sweater    2. tie    A. hand    B. neck 3. belt    4. hat    C. foot    D. ankle</p>
<p>Answer:    3D</p>	<p>Answer:    4A</p>

## VISUAL ACUITY TEST

<b>Purpose:</b>	This test assesses the ability to see obscure details and small defects.
<b>When To Use It:</b>	The Visual Inspection Test should be used where the job requires close attention to small objects or features.
<b>Target Group:</b>	We recommend using this test for a wide range of inspector positions as well as manufacturing positions where inspection is a key job requirement. When administering this test, be sure to instruct people to wear their glasses to the testing session.
<b>High Scorers:</b>	People scoring high in this test are able to identify very small differences in pattern, shape, texture that other people would not recognize as quality problems. Once blemishes are spotted, they are then able to judge whether it qualifies as a reject or not.
<b>Low Scorers:</b>	People scoring low on this test are less able to spot blemishes. Therefore, they do not see potential problems so the reject rate is unnecessarily high.
<b>Number of Items:</b>	104 items
<b>Time Limits:</b>	3 minutes

### **Sample Item**

For example: in the product code BN7I9J,  
 B is in position # 1.  
 N is in position # 2.  
 7 is in position # 3.  
 I is in position # 4.  
 9 is in position # 5.  
 J is in position # 6.

Below is a sample of what the candidate will be asked to do. There are four sample items. The first two items have been completed correctly.

	Where is the	PRODUCT CODE	Write in position #
1.	7	<b>BN7I9J</b>	3
2.	K	3L1VK0	5
3.	2	H285MN	
4.	T	90TU94	

## VISUAL INSPECTION TEST

- Purpose:** This test assesses the ability to spot small visual quality differences in products. It taps both visual acuity and attention to detail.
- When To Use It:** The Visual Inspection Test should be used where the job requires very close attention to visual details.
- Target Group:** We recommend using this test for a wide range of inspector positions as well as manufacturing positions where inspection is a key job requirement.
- High Scorers:** People scoring high on this test are able to identify very small differences in pattern, shape, texture that other people would not recognize as a quality problem. Once blemishes are spotted, they are then able to judge whether it qualifies as a reject or not.
- Low Scorers:** People scoring low on this test are less able to spot blemishes. Therefore, they do not see potential problem.
- Number of Items:** 20 questions
- Time Limits:** 6 minutes
- Validity:** On average, this test is significantly related  $r=.27^*$  with overall job performance composite for production / extrusion workers.

### *Sample Item*

In the example below, the respondent's task is to look at each drawing and determine which one has a defect.

