8. Practice with Sample Test Questions

Answer practice questions and find explanations for correct answers

Sample Test Questions

This test is available via computer delivery. To illustrate what the computer-delivered test looks like, the following sample question shows an actual screen used in a computer-delivered test. For the purposes of this guide, sample questions are provided as they would appear in a paper-delivered test.

Given the student work sample above, the most likely reason for the student’s error is that the student has difficulty

- recalling addition facts
- recognizing an appropriate answer
- interpreting arithmetic symbols
- rounding up whole numbers

Answer the question above by clicking on the correct response.
Step 8: Practice with Sample Test Questions

The sample questions that follow illustrate the kinds of questions on the test. They are not, however, representative of the entire scope of the test in either content or difficulty. Answers with explanations follow the questions.

Directions: Each of the questions or statements below is followed by four suggested answers or completions. Select the one that is best in each case.

1. If there are exactly 5 times as many children as adults at a show, which of the following CANNOT be the number of people at the show?
   (A) 102
   (B) 80
   (C) 36
   (D) 30

2. The original price of a certain car was 25 percent greater than its cost to the dealer. The actual selling price was 25 percent less than the original price. If \( c \) is the cost of the car to the dealer and \( p \) is the selling price, which of the following represents \( p \) in terms of \( c \)?
   (A) \( p = 1.00c \)
   (B) \( p = 1.25c \)
   (C) \( p = 0.25(0.75c) \)
   (D) \( p = 0.75(1.25c) \)

3. The large rectangular block pictured above was made by stacking smaller blocks, all of which are the same size. What are the dimensions in centimeters of each of the smaller blocks?
   (A) \( 3 \times 2 \times 3 \)
   (B) \( 3 \times 3 \times 3 \)
   (C) \( 3 \times 4 \times 3 \)
   (D) \( 4 \times 4 \times 3 \)

4. In the figure above, line \( \ell \) and line \( p \) are parallel and \( y = 3x \). What is the value of \( x \)?
   (A) 30
   (B) 45
   (C) 60
   (D) 75
5. Which of the following defines $y$ as a function of $x$?
(A) $x - y^2 = 4$
(B) $x^2 + y^2 = 4$
(C) $y = x^2 + 2$
(D) $y < x + 1$

6. A taxi ride costs $2.50 for the first $\frac{1}{4}$ mile or fraction thereof plus $0.50$ for each additional $\frac{1}{4}$ mile or fraction thereof. Which of the following graphs represents the total cost of a ride as a function of distance traveled?
7. The graph above shows the distribution of the content, by weight, of a county’s trash. If approximately 60 tons of the trash consists of paper, approximately how many tons of the trash consist of plastics?

(A) 24  
(B) 20  
(C) 15  
(D) 12

8. If a student takes a test consisting of 20 true-false questions and randomly guesses at all of the answers, what is the probability that all 20 guesses will be correct?

(A) 0  
(B) \( \left( \frac{1}{2} \right)^{20} \)  
(C) \( \frac{1}{2^{20}} \)  
(D) \( \frac{1}{2} \)
9. For each equation in the table below, check the appropriate box to indicate whether the graph of the equation in the $xy$-plane will never intersect with, intersect once with, or coincide with the graph of the equation above.

<table>
<thead>
<tr>
<th>Equation</th>
<th>The graphs of the</th>
<th>The graphs of the</th>
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</tr>
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<tbody>
<tr>
<td>$-12x - 8y = -32$</td>
<td>will never intersect.</td>
<td>will intersect once.</td>
<td>will coincide.</td>
</tr>
<tr>
<td>$9x + 4y = 64$</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>$6y - 4x = 8$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$12y + 18x = 36$</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

For the following question, use the grid to enter your answers.

10. A line in the $xy$-plane passes through the points $(-2, -7)$ and $(3, 3)$. When the equation of the line is written in the form $y = mx + b$, what are the values of $m$ and $b$?

\[
m = \underline{\phantom{0}}
\]

\[
b = \underline{\phantom{0}}
\]

11. Arrange the numbers below in order from least to greatest.

\[
0.537, \quad \frac{11}{20}, \quad \sqrt{0.36}, \quad 5.4 \times 10^{-1}
\]
12. Which of the following are valid ways to find 125 percent of a number? Select all that apply.
   (A) Multiply the number by 1.25.
   (B) Divide the number by 4 and multiply the result by 5.
   (C) Divide the number by 4 and add the result to the number.
   (D) Multiply the number by 0.25 and multiply the result by 4.

For the following question, use the grid to enter your answers.

13. The graph of linear function $f$ passes through the points $(-3, 11)$ and $(7, -4)$. What is the slope of the graph of $f$?
   Give your answer as a fraction.

   \[
   \frac{\phantom{0}}{\phantom{0}}
   \]
14. Determine which net below can be used to form each solid, then click on each net and drag it to the appropriate box.

For the following question, use the grid to enter your answers.

15. Jasmine scored 11, 18, 27, 14, 13, 21, and 15 points in her first seven basketball games this season. What are the mean and median for the points she scored in the seven games?

For the seven games, the mean is □□ points and the median is □□ points.