6a & 6C final practice test

Multiple Choice
Identify the choice that best completes the statement or answers the question.

Factor the expression using the GCF.

1. \(8y - 6x\)
   a. \(2(4y - 3x)\)
   b. \(2(4y - 6x)\)
   c. \(2(4y - 6x)\)
   d. \(2y(4 - 3x)\)

2. A pet sitting service charges $23 for the first visit and $19 for each additional visit in a week. If \(v\) represents the number of visits in a week, which expression can be used to determine the total charge, in dollars, for \(v\) visits?
   a. \(23v - 19\)
   b. \(23 + 19v\)
   c. \(23 + 19(v - 1)\)
   d. \(23 + 19(v + 1)\)

3. Which equation is NOT true for all numbers \(n\)?
   a. \(n + 8 = 8 + n\)
   b. \(n \times 8 = 8 \times n\)
   c. \(n + 0 = n\)
   d. \(n \times 0 = n\)

Write a unit rate for the situation.

4. $19.50 for 5 people
   a. $\frac{3.90}{1 \text{ person}}$
   b. $\frac{\$1}{5 \text{ people}}$
   c. $\frac{1 \text{ person}}{\$3.90}$
   d. $\frac{\$19.50}{1 \text{ person}}$

Write the percent as a fraction or mixed number in simplest form.

5. 0.75%
   a. $\frac{3}{400}$
   b. $\frac{3}{4,000}$
   c. $\frac{3}{40}$
   d. $\frac{3}{4}$

Find the percent of the number.

6. 81% of 78
   a. 63.18
   b. 59.94
   c. 65
   d. 14.82
7. The ride length of a roller coaster is $1\frac{3}{4}$ minutes. Every ride starts as soon as the previous ride ends. How many rides take place in 28 minutes?
   a. 16  
   b. 28  
   c. 49  
   d. 65

8. A triangle and the length of its base are shown below.

![Diagram of a triangle with base length 12 cm]

The area of the triangle is 39 square centimeters. What is the value of the height $h$ of the triangle, in centimeters?
   a. 1.625  
   b. 3.25  
   c. 6.5  
   d. 13.5

9. Which equation is NOT true for all numbers $a$ and $b$?
   a. $a + (b + c) = (a + b) + c$  
   b. $(a + b) \times 1 = a + b$  
   c. $a(b + c) = ab + ac$  
   d. $a + b + 1 = a + b$

10. Francisco flew a kite for 200 minutes. This was 20 minutes less than 4 times the number of minutes that Victoria flew a kite.

   If $v$ represents the number of minutes that Victoria flew a kite, which equation represents the relationship between the number of minutes Francisco and Victoria flew kites?
   a. $20 - 4v = 200$  
   b. $4v - 20 = 200$  
   c. $(20 - 4)v = 200$  
   d. $4(v - 20) = 200$

11. Sandra bought a new air conditioner for $3000. She had to pay 6% sales tax on the cost of the air conditioner. What was the total cost for the air conditioner, including tax?
   a. $318$  
   b. $3180$  
   c. $3018$  
   d. $3180$

Match the equation and the word sentence.

12. The quotient of a number $n$ and 4 is 12.
   a. $\frac{n}{4} = 12$  
   b. $n - 4 = 12$  
   c. $4n = 12$  
   d. $n + 4 = 12$

13. 9 is 5 less than a number $n$.
   a. $\frac{n}{5} = 9$  
   b. $n - 5 = 9$  
   c. $5n = 9$  
   d. $n + 5 = 9$
14. The sum of a number \( n \) and 4 is 16.
   a. \( \frac{n}{4} = 16 \)  
   b. \( n - 4 = 16 \)  
   c. \( 4n = 16 \)  
   d. \( n + 4 = 16 \)

Name the word that matches the definition given.

15. The variable representing the quantity that can change freely in an equation in two variables
   a. inverse operations  
   b. solution of an equation in two variables  
   c. independent variable  
   d. dependent variable  
   e. graph of an inequality  
   f. inequality

Graph the inequality on a number line.

16. \( x > -3 \)

   a.  
   b.  
   c.  
   d.  

Write the word sentence as an inequality.

17. A number \( a \) is more than 49.
   a. \( 49 > a \)  
   b. \( a \geq 49 \)  
   c. \( a > 49 \)  
   d. \( 49 > 38 \)

Solve the inequality. Graph the solution.

18. \( 6w \leq 12 \)
   a. \( w > 2; \)  
   b. \( w \geq 2; \)  
   c. \( w < 2; \)  
   d. \( w \leq 2; \)
Numeric Response

1. A player’s score in the game of horseshoes is based on the number of “ringers” \( r \) and the numbers of horseshoes closest to the stake \( c \) that a player throws. Use the formula below to determine the score of a player who throws 4 ringers and 7 horseshoes closest to the stake.

\[
3r + c
\]

Write the fraction or mixed number as a percent.

2. \( \frac{5}{8} \)

3. \( \frac{7}{8} \)

Complete the statement. Round to the nearest hundredth if necessary.

4. \( 3 \text{ gal} \approx _____ \text{ L} \)

5. The ratio of offensive players to defensive players on a football team is \( 4 : 3 \). There are total \( 21 \) players on the team. How many offensive players are there?

Use the table below that shows the number of first downs in a football game.

<table>
<thead>
<tr>
<th>Team</th>
<th>Cougars</th>
<th>Gators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total First Downs</td>
<td>16</td>
<td>20</td>
</tr>
<tr>
<td>By rushing</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>By passing</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>By penalty</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

6. What percent of the Cougars’ first downs were by passing?

7. What percent of the Gators’ first downs were by rushing?

8. For a class trip, the teachers would like to have one adult for every 10 students. There are 190 students on the trip. How many adults should go on the trip?

9. An alligator can run at a speed of 12 feet per second on land. At this rate, how far can it run in 4 seconds?

10. Your heart beats 500 times in 10 minutes. What is your heart rate, in beats per second?