

Geometry – Semester 2
Homework after Quiz #2

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1. A recent survey of college students on a big campus was conducted to find students' preferred method of getting to class. The results showed that 35% of students walk to class, 20% take the bus, 25% ride a bike, and 15% drive; the remaining students rollerblade to class. If each student preferred only 1 method of getting to class and 75 students rollerbladed, how many students were surveyed?

A. 900 B. 1,250 C. 1,500 D. 1,800 E. 2,225

2. Given $f(x) = 3x^2 + 6x + 11$, what is the value of $f(-5)$?

A. -94 B. -42 C. 56 D. 61 E. 78

3. The school dance team wants to raise money to purchase custom made t-shirts and warm-up pants to wear before competitions. The team decides to sell boxes of cookies for \$2.50 each. For each of the first 100 boxes sold, the team will receive \$0.60. For each of the next 200 sold, the team will receive \$0.75. For each additional box of cookies sold, the team will receive \$0.95. How many boxes must the team sell in order to reach its goal of raising \$400.00?

A. 200 B. 383 C. 450 D. 500 E. 542

4. If z is a real number and $3^z = 81$, then $7 \times 2^z = ?$

A. 14 B. 28 C. 56 D. 84 E. 112

5. What are the values of the slope, m , and the y-intercept, b , for the line whose equation is $2x - 4y = 28$?

A. $m = -\frac{1}{2}; b = -7$

B. $m = \frac{1}{2}; b = -7$

C. $m = \frac{1}{2}; b = 7$

D. $m = -2; b = -7$

E. $m = 2; b = 7$

$$-4y = -2x + 28$$

$$y = \frac{1}{2}x + -7$$

6. The length of one side of a square is 11 units. What is the length in units, of the diagonal of the square?

A. $22\sqrt{2}$ B. $\sqrt{22}$ C. $11\sqrt{3}$ D. $11\sqrt{2}$ E. 11

7. $\log_3 \sqrt{3} = ?$

A. -1 B. $\frac{1}{3}$ C. $\frac{1}{2}$ D. $\frac{2}{3}$ E. 2

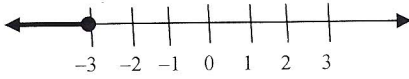
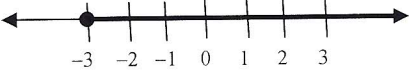

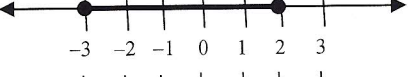
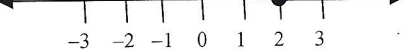
$$3(25) + (-30) + 11$$
$$75 - 30 + 11$$
$$56$$

$$3(\frac{27}{81})$$
$$\frac{81}{81}$$
$$\frac{81}{81}$$

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8. Which of the following is the graph of the solution set of $x + 1 \geq -2$?

- (A) 
- B. 
- C. 
- D. 
- E. 

$$\begin{array}{r} x + 1 \geq -2 \\ -1 \quad -1 \\ \hline x \geq -3 \end{array}$$

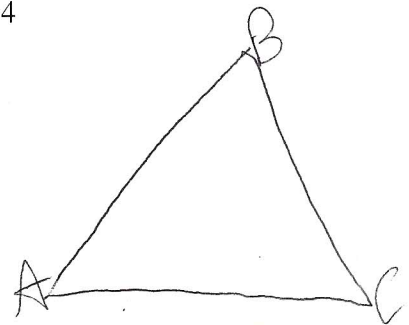
9. The measure of the perimeter of right triangle A is denoted by x , then the perimeter of right triangle B is $2x$. If the two triangles are similar, and the lengths of the two legs of right triangle A are 5 cm and 12 cm, what is the measure of the hypotenuse of triangle B , in centimeters?

- A. 10 (B. 13) C. 24 D. 26 E. 34

10. Given $\triangle ABC$, and D is the midpoint of AB , and E is the midpoint of AC .
 $DE = 4x + 6$

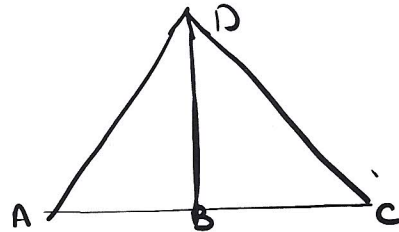
$BC = 11x + 3$

Find the length of BC .



Given: $\overline{AD} \cong \overline{CD}$

B is the midpoint of \overline{AC}
Conclusion: $\triangle ABD \cong \triangle CBD$



Statement

Reasons

D $\overline{AD} \cong \overline{CD}$

D Given