

1

If $5x + 6 = 10$, what is the value of $10x + 3$?

- A) 4
 B) 9
 C) 11
 D) 20

$$5x = 4$$

$$10x = 8$$

2

$$\begin{array}{r} 2(x+y=0) \\ 3x-2y=10 \end{array} \quad \begin{array}{r} 2x+2y=0 \\ + (3x-2y=10) \\ \hline 5x=10 \\ x=2 \end{array}$$

Which of the following ordered pairs (x, y) satisfies the system of equations above?

- A) $(3, -2)$
 B) $(2, -2)$
 C) $(-2, 2)$
 D) $(-2, -2)$

3

A landscaping company estimates the price of a job, in dollars, using the expression $60 + 12nh$, where n is the number of landscapers who will be working and h is the total number of hours the job will take using n landscapers. Which of the following is the best interpretation of the number 12 in the expression?

- A) The company charges \$12 per hour for each landscaper.
- B) A minimum of 12 landscapers will work on each job.
- C) The price of every job increases by \$12 every hour.
- D) Each landscaper works 12 hours a day.

4

$$9(2)^4 + 12(2)^2(3)^2 + 4(3)^4$$

$$9a^4 + 12a^2b^2 + 4b^4 \quad a=2$$

Which of the following is equivalent to the expression shown above?

- A) $(3a^2 + 2b^2)^2$
- B) $(3a + 2b)^4$
- C) $(9a^2 + 4b^2)^2$
- D) $(9a + 4b)^4$

$$144 + 432 + 324$$

$$432$$

$$324$$

$$900$$

$(3a)^4 =$

5

$$\sqrt{2k^2 + 17} - x = 0$$

If $k > 0$ and $x = 7$ in the equation above, what is the value of k ?

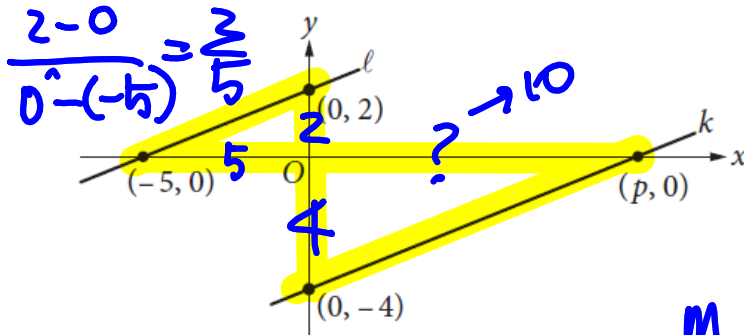
- A) 2
 B) 3
 C) 4
 D) 5

$$\sqrt{2k^2 + 17} - 7 = 0$$

↓

$$\sqrt{49}$$

6



In the xy -plane above, line ℓ is parallel to line k .
 What is the value of p ?

- A) 4
 B) 5
 C) 8
 D) 10

7

If $\frac{x^{a^2}}{x^{b^2}} = x^{16}$, $x > 1$, and $a + b = 2$, what is the value of $a - b$?

A) 8

B) 14

C) 16

D) 18

$$x^{a^2 - b^2} = x^{16}$$

$$a^2 - b^2 = 16$$

$$(a - b)(a + b) = 16$$

$$\underline{8} (2) = 16$$