

Name \_\_\_\_\_

Date \_\_\_\_\_

Mrs. Roubos

8A Period \_\_\_\_\_

Mixed Review Take Home Quiz #12

Due: \_\_\_\_\_

**\*\*Show all work where possible for full credit for each question\*\***

**\*4 points each\***

1) \_\_\_\_\_

11) \_\_\_\_\_

21) \_\_\_\_\_

2) \_\_\_\_\_

12) \_\_\_\_\_

22) \_\_\_\_\_

3) \_\_\_\_\_

13) \_\_\_\_\_

23) \_\_\_\_\_

4) \_\_\_\_\_

14) \_\_\_\_\_

24) \_\_\_\_\_

5) \_\_\_\_\_

15) \_\_\_\_\_

25) Leave on exam

6) \_\_\_\_\_

16) \_\_\_\_\_

7) \_\_\_\_\_

17) \_\_\_\_\_

8) \_\_\_\_\_

18) \_\_\_\_\_

9) \_\_\_\_\_

19) \_\_\_\_\_

10) \_\_\_\_\_

20) \_\_\_\_\_

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<p>1) Which expression represents an irrational number?</p> <p>A) <math>\frac{1}{2}</math>                      C) 0 B) 0.17                      D) <math>\sqrt{2}</math></p>	<p>2) What is the slope of any line perpendicular to the line <math>5x - 6y = 30</math>?</p> <p>A) -30                      C) <math>-\frac{6}{5}</math> B) <math>\frac{6}{5}</math>                      D) 30</p>
<p>3) Which number is in the solution set of the inequality <math>5x + 3 &gt; 38</math>?</p> <p>A) 6                      C) 7 B) 5                      D) 8</p>	<p>4) What is the solution set of the equation <math>x^2 - 5x - 24 = 0</math>?</p> <p>A) {3,-8}                      C) {-3,8} B) {-3,-8}                      D) {3,8}</p>
<p>5) If one factor of <math>56x^4y^3 - 42x^2y^6</math> is <math>14x^2y^3</math>, what is the other factor?</p> <p>A) <math>4x^2 - 3y^2</math>                      C) <math>4x^2y - 3xy^2</math> B) <math>4x^2y - 3xy^3</math>                      D) <math>4x^2 - 3y^3</math></p>	<p>6) What is the solution of the equation <math>3y - 5y + 10 = 36</math>?</p> <p>A) 4.5                      C) 13 B) -13                      D) 2</p>

7) Factor completely:  $3x^2 - 27$

- A)  $3(x^2 - 27)$
- B)  $(3x+3)(x-9)$
- C)  $3(x+3)(x-3)$
- D)  $3(x-3)^2$

8)

Which polynomial is the quotient of

$$\frac{6x^3 + 9x^2 + 3x}{3x}$$

- A)  $2x+3$
- B)  $6x^2+9x$
- C)  $2x^2+3x+1$
- D)  $2x^2+3x$

9)

Which properties *best* describe the coordinate graph of two distinct parallel lines?

- A) different slopes and same intercepts
- B) same slopes and same intercepts
- C) same slopes and different intercepts
- D) different slopes and different intercepts

10)

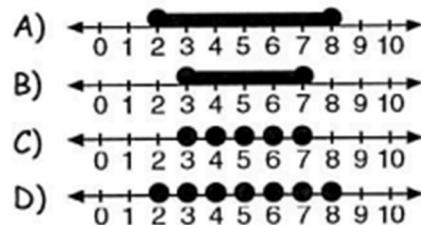
In the set of positive integers, what is the solution set of the inequality  $2x - 3 < 5$ ?

- A)  $\{1,2,3\}$
- B)  $\{1,2,3,4\}$
- C)  $\{0,1,2,3,4\}$
- D)  $\{0,1,2,3\}$

11)

Determine which graph accurately represents the given set:

{integers between 2 and 8, inclusive}



12)

If  $2x^2 - 4x + 6$  is subtracted from  $5x^2 + 8x - 2$  the difference is

- A)  $-3x^2 + 4x + 4$
- B)  $-3x^2 - 12x + 8$
- C)  $3x^2 + 12x - 8$
- D)  $3x^2 + 4x + 4$

13)

Which ordered pair is the solution of the following system of equations?

$$3x + 2y = 4$$

$$-2x + 2y = 24$$

- A) (-4,8)                      C) (2,-5)  
 B) (2,-1)                      D) (-4,-8)

14)

The sum of  $3x^2 + x + 8$  and  $x^2 - 9$  can be expressed as

- A)  $4x^2 + x - 17$                       C)  $3x^4 + x - 1$   
 B)  $4x^4 + x - 1$                       D)  $4x^2 + x - 1$

15)

The expression  $(x - 6)^2$  is equivalent to

- A)  $x^2 - 12x + 36$                       C)  $x^2 + 12x + 36$   
 B)  $x^2 + 36$                       D)  $x^2 - 36$

16)

The *larger* root of the equation  $(x + 4)(x - 3) = 0$  is

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

17)

Which of the following equations is the solution to  $x^2 + 12x + 5 = 0$  after completing the square?

- A)  $(x - 6)^2 = 41$                       C)  $(x + 6)^2 = 31$   
 B)  $(x - 6)^2 = 31$                       D)  $(x + 6)^2 = 41$

18)

Which of the following represents  $6x^2 + 24x + 24$  after it has been factored completely?

- A)  $6(x^2 + 4x + 4)$   
 B)  $(6x + 12)(x + 2)$   
 C)  $6(x + 2)^2$   
 D)  $2(3x + 2)(x + 6)$

19)

The formula for the volume of a right circular cylinder is  $V = \pi r^2 h$ . The value of  $h$  can be expressed as

- A)  $\frac{\pi r^2}{V}$                       C)  $V - \pi r^2$   
 B)  $\frac{V}{\pi r^2}$                       D)  $\frac{V}{\pi} r^2$

20)

What is the value of  $x$  in the equation  $13x - 2(x + 4) = 8x + 1$ ?

- A) 1                              C) 3  
 B) 2                              D) 4

21)

The length of a rectangle is represented by  $(x + 4)$  and the width is represented by  $(x - 2)$ . What expression represents the area of the rectangle?

- A)  $4x + 4$                       C)  $2x + 2$   
 B)  $x^2 + 2x - 8$                 D)  $x^2 - 8$

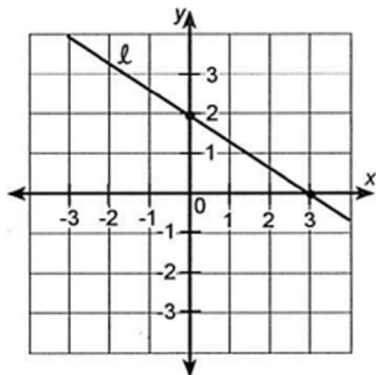
22)

The perimeter of a rectangular garden is 42 feet. The length of the garden is 5 feet more than twice the width. Which system of equations will determine the length ( $l$ ) and the width ( $w$ ) of the garden?

- A)  $2l + 2w = 42$                 C)  $2l + 2w = 42$   
      $w = 2l - 5$                        $l = 2w + 5$   
 B)  $2l + w = 42$                 D)  $2l + w = 42$   
      $2w + l = 5$                        $2l - w = 5$

23)

What is the slope of line  $\ell$  in the accompanying diagram?



- A)  $-\frac{2}{3}$                               C)  $-\frac{3}{2}$   
 B)  $\frac{2}{3}$                               D)  $\frac{3}{2}$

24)

Express the given radical in simplest radical form:

$$\sqrt{\frac{12}{81}}$$

25) Please use LESC to solve

Tickets to a school play cost \$5.00 for general admission and \$3.50 with a student ID. On opening night, 400 tickets were sold for a total of \$1,580. How many general-admission tickets were sold?