

1. What is the coefficient with the highest power in the polynomial $4x^5 + 2x^4 + 7$

A. 2

B. 4

DOK:

1 C. 5

D. 7

2. John earns money by working at his uncle's shop. He earns a flat daily rate and an hourly rate. The equation $p(t) = 8t + 40$ can be used to calculate his total pay each day. What

DOK: does the 40 represent?.

A. The number of hours he works.

B. His hourly rate.

2

C. There are 40 t per $p(t)$.

D. His daily rate.

3. Which of the following expressions is equivalent to $(b^3 + 5b^2 - 2b) - (b^3 + b - 1)$

A. $5b^2 - b$

B. $5b^2 - 3b + 1$

DOK:

1 C. $4b^2 - b$

D. $5b^2 - 3b - 1$

4. Which expression is equivalent to $\sqrt{32} - \sqrt{8}$

A. $2\sqrt{2}$

B. $6\sqrt{2}$

DOK:

1 C. $2\sqrt{6}$

D. $2\sqrt{10}$

5. Which expression has a value that is a rational number?

A. $\sqrt{10} + 16$

B. $2(\sqrt{5} + \sqrt{7})$

DOK:

2 C. $\sqrt{9} + \sqrt{4}$

D. $\sqrt{3} + 0$

6. The height, h , of a cylinder is 3 units less than 4 times its radius, r . Which expression represents the height of the cylinder in terms of its radius?

DOK: A. $4r + 3$

B. $3 - 4r$

1 C. $4r - 3h$

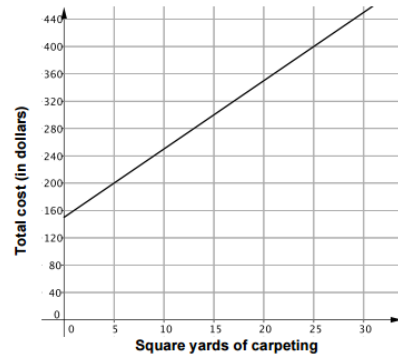
D. $4r - 3$

7. The quantity that represents the cost per square yard of the graph given below is

- A. Slope of the graph
B. Domain of the function
C. Y-intercept of the graph
D. Range of the function

DOK:

2



8. The length of a side of a square window in Jessica's bedroom is represented by $2x - 1$. Which expression represents the area of the window?

- A. $2x^2 + 1$
B. $4x^2 + 1$
C. $4x^2 + 4x + 1$
D. $4x^2 - 4x + 1$

DOK:

2

9. What is the area of a square with side length 122 in

- A. 1240 square feet
B. 14884 square feet
C. 103 square feet
D. 122 cubic feet

DOK:

2

10. A rectangular field is 100 meters in width and 120 meters in length. The dimensions of the field will be expanded by x meters in each direction. What will the area of the new field be?

- A. 12000 square meters
B. $12000x^2$ square meters
C. $x^2 + 12000$ square meters
D. $x^2 + 220x + 12000$ square meters

DOK:

2

11. A train transports one ton of freight 2,400 miles on 4.8 gallons of diesel fuel from one location to another location. Harrison makes a graph to represent the miles per gallon the train uses. What would be an appropriate domain for Harrison to use to graph this situation?

- A. $X > 2400$
B. $0 \leq x \leq 4.8$
C. $0 \leq x \leq 2400$
D. All Real Numbers

DOK:

3

12. The time it takes to fill a tank depends upon the rate at which the water is flowing. It takes 40 minutes to fill the tank at the rate of 3 gallons per minute. How many minutes will it take to fill the tank at the rate of 4 gallons per minute?

DOK:

3

A. $\frac{12}{40}$

B. 30

C. 50

D. $53\frac{1}{3}$

13. Which statement is true about the value of $(\sqrt{8} + 4) * 4$

DOK:

3

A. It is rational because the product of two rational numbers is rational.

B. It is rational because the product of a rational number and an irrational number is rational.

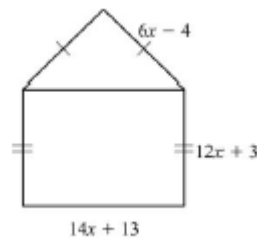
C. It is irrational because the product of two irrational numbers is irrational.

D. It is irrational because the product of an irrational number and a rational number is irrational.

14.

DOK:

2



What is the perimeter of the house shown?

A. $32x + 12$

B. $46x + 25$

C. $50x + 11$

D. $64x + 24$

15. How many factors are in the following expression: $3x(x + 5)(y - 3)$

DOK:

2

A. 1

B. 2

C. 3

D. 4

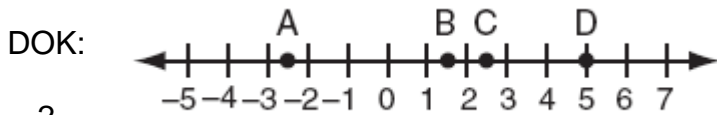
16. Clarissa rents a booth to sell her necklaces at a craft fair. She uses the function $y = cx - k$ to determine the profit she will make if she sells different numbers of necklaces at the craft fair. The expression part $cx - k$ of the function has c and k representing constants. What did Clarissa most likely use k to represent?

DOK: 2
 E. The cost per necklace. F. Her total profit.
 G. The cost of participating in the craft fair. H. The number of necklaces sold.

17. Lightning quickly heats the air causing it to expand, which produces the sound of thunder. Sound travels approximately 1 mile in 5 seconds. Knowing $D = r \cdot t$ (where D = distance, r = rate, and t = time), how far away is a thunderstorm when you notice a 3-second delay between the flash of lightning and the sound of thunder?

DOK: 3
 A. 1 mile B. $\frac{3}{5}$ mile
 C. $\frac{1}{2}$ mile D. $\frac{1}{5}$ mile

18. Which point on the accompanying number line best represents the location of $\sqrt{5}$?



19. A rectangular prism has a volume of 3m^3 , a length of 30 cm, and a width of 40 cm. What is the height of the prism?

DOK: 2
 A. 0.25 cm B. 250 cm
 C. 25 cm D. 25 m

20. When Justin goes to work he drives an average speed of 55 miles per hour. It takes about 1 hour and 30 minutes for Justin to arrive at work. His car travels about 30 miles per gallon of gas. If gas costs \$3.45 per gallon, how much money does Justin spend to travel each mile o work?

DOK: 3
 A. \$1.43 B. \$6.33
 C. \$0.70 D. \$0.12

ANSWERS:

1)B	11)B
2)D	12)D
3)B	13)D
4)A	14)C
5)C	15)D
6)D	16)G
7)A	17)B
8)D	18)C
9)C	19)D
10)D	20)D