MATH-A

SOL review A.1 - Copy

[Exam ID:1CGZLW

Exam not valid for Paper Pencil Test Sessions

1 **What is the value of**

$$\frac{mn}{r^2}$$

if $m = 7$, $n = 18$, and $r = 6$?

A 3.5
B 10.5
C 63
D 21

2 **Lincoln High School earned $5,100 in ticket sales for a play. The cost per ticket was $12. Let t represent the number of tickets sold to the play. Which of the following equations could be used to determine how many tickets were sold to the play?**

A $12 = 5{,}100t$
B $t = 5{,}100 \bullet 12$
C $t = 5{,}100 - 12$
D $12t = 5{,}100$

3 **What is the value of $a(3 - b)$ if $a = 2$ and $b = 5$?**

A 0
B 5
C -4
D 16

4 **The base of a triangle is 3 units more than h, its height. Which expression represents its area?**

A $\frac{1}{2}h(h + 3)$
B $h(h + 3)$
C $\frac{1}{2}h(h - 3)$
D $h(h - 3)$

5 **What is the value of**

$$\frac{4x - 5y}{2y}$$

if $x = -6$ and $y = 2$?

A -8.5
B -0.5
C -26.5
D -3.5

6 **What is the value of the expression $3(x + 4) - 2y$, if $x = 5$ and $y = -3$?**

A 11
B 21
C -7
D 33

7 **If 112 children sign up for a field trip and each vehicle carries x children, which expression could be used to determine the number of vehicles needed for the trip?**

A $112 - x$
B $\frac{112}{x}$
C $112x$
D $\frac{x}{112}$

8 **Two boys spend $32 at a fair. There is an entrance fee of d dollars, and each ride costs $2.50. Which equation correctly represents this relationship, where r is the number of rides each boy pays for?**

A $2d + 5r = 32$ **B** $d + 2.50r = 32$ **C** $d + 5r = 32$ **D** $2d + 2.50r = 32$

9 **The number of students trying out for the boy's basketball team is 3 more than 2 times the number of students trying out for the girl's basketball team. If g represents the number of girls trying out for the team, which expression represents the number of students trying out for the boy's basketball team?**

A $3g - 2$
B $3g + 2$
C $2g + 3$
D $3g$

10 Directions: Type your answer in the box.

The perimeter of a square is $s \times s \times s \times s$. A girl rewrote the expression for the perimeter in the form $k(s)$ to represent the side length of the square, s. What is the value of k?

11 **Travis would like to buy some toys to donate to charity. He plans to buy 9 dolls at d dollars each, 2 toy cars at c dollars each, and 3 train sets at t dollars each. Which expression represents the total cost, in dollars, of these items that Travis wants to buy?**

A $9c + 2t + 3d$
B $9d - 2c - 3t$
C $9d + 2c + 3t$
D $9c - 2t - 3d$

12 **What is the value of the expression $4a - 5b$ if $a = \frac{1}{4}$ and $b = \frac{3}{10}$?**

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

13 **What is the value of this expression when $x = \frac{2}{3}$?**

$$x^2 + 3x - 2$$

A $\frac{16}{3}$
B $\frac{40}{9}$
C $\frac{4}{3}$
D $\frac{4}{9}$

14 Directions: Type you answer in the box.

What is the value of this expression when $a = 64$ and $b = -5$?

$$-2\sqrt[3]{a} + b^2$$

15 **Which expression represents four less than half a number, n ?**

A $4 - \frac{1}{2}n$

B $\frac{1}{2}n - 4$

C $\frac{1}{2}(4 - n)$

D $\frac{1}{2}(n - 4)$

16 **What is the value of this expression when $n = -15$?**

$$-2|n + 6|$$

A -42

B -18

C 18

D 42

17 **Which expression correctly represents $10 less than twice the cost, c ?**

A $10 - 2c$

B $10 - 2 + c$

C $2c - 10$

D $\frac{c}{2} - 10$

18 **The formula for the surface area of a cylinder is $SA = 2\pi r(h + r)$. What is the value of SA when $r = 3$ centimeters and $h = 4$ centimeters?**

A 36π cm^2

B 28π cm^2

C 32π cm^2

D 42π cm^2

19 **The admission fee at an exhibition is $5 for children and $10 for adults. On a certain day 1,200 people visit the exhibition and $10,000 is collected. Which equations represent the situation, if x represents the number of adults and y represents the number of children?**

A $x + y = 10{,}000$
$5x + 10y = 1{,}200$

B $x + y = 1{,}200$
$5x + 10y = 10{,}000$

C $x + y = 1{,}200$
$10x + 5y = 10{,}000$

D $x + y = 10{,}000$
$10x + 5y = 1{,}200$

20 **Which statement could be represented by the expression $n^2 + 4n$?**

A The square of the product of a number and four
B The square of a number increased by four
C The square of a number increased by four times the number
D The sum of two times a number and four times a number

21 **What is the value of $3x^2 - y^2$ if $x = -1$ and $y = 3$?**

A -6
B 12
C -3
D -12

22 **What is the value of the expression $\frac{1}{4}(x^2 - y^3)$ when $x = 5$ and $y = 1$?**

A 6
B $\frac{7}{4}$
C 31
D $\frac{11}{2}$

23 **The length of a certain rectangle is six more than three times its width. If the width of the rectangle is 4 units, what is its length?**

A 18
B 13
C 10
D 27

24 **A consulting engineer bills his customers $90 for each hour he works. If a client's bill is $955, which equation could be used to find the number of hours worked?**

A $90x = 955$

B $\frac{90}{x} = 955$

C $955x = 90$

D $\frac{x}{955} = 90$

25 **If 25 students in a science class at a middle school are going on a hiking trip and each tent holds *s* number of students, which expression could be used to determine the number of tents needed for the hiking trip?**

A $25 - s$

B $25 + s$

C $\frac{25}{s}$

D $25s$