

Geometry PSAT practice #2

Header:

1. The art club has a budget of \$350 for art supplies. The club has already purchased a display board for \$125 and would like to buy several canvases. The canvases are \$15 each. How many canvases can the club buy? Let x represent the number of canvases. Which inequality can be used to find x ?

- A** $350 > 125 - 15x$ **B** $350 < 125 + 15x$
C $350 \geq 125 + 15x$ **D** $350 \leq 125 - 15x$

2. Given the table, determine the equation of the function.

x	-2	-1	0	1	2
f(x)	0.25	1	4	9	16

- A** $y = 4(1/4)^x$ **B** $y = 2(x-1)^2 + 16$
C $y = 4(4)^x$ **D** $y = 4(x-0)^2 + 4$

3. Write the function rule to represent the table.

x	f(x)
0	3
1	10
2	17
3	24
4	31

- A** $y = 7x + 3$ **B** $y = 3(7)^x$
C Not a function **D** $y = 7(3)^x$

7. Solve the system of equations by elimination.
- $$\begin{aligned} -x + y &= -13 \\ x + 4y &= -8 \end{aligned}$$
- A** $(5, 8)$ **B** $(5, -8)$
C $(5, 8)$ **D** $(-5, 8)$

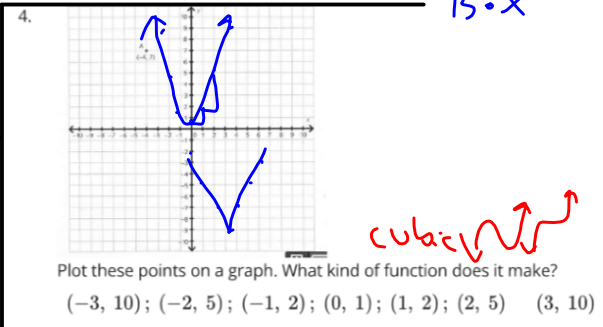
10. What is the probability that the person picked will be a boy given they speak German?

	Spanish	French	German	Total
Boys	10	2	8	20
Girls	15	12	3	30
Total	25	14	11	50

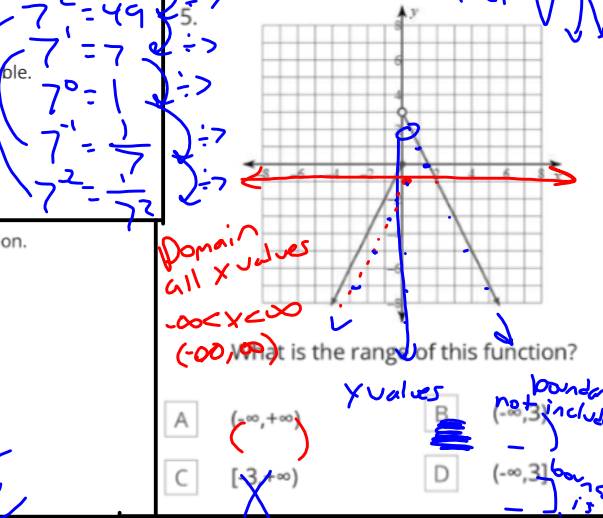
- A** .16 **B** .4
C .22 **D** .7273

13. Last month, Kyeisha made \$480 working for 30 hours. This month, she will get a 15% increase in the amount she earns per hour. What will be her hourly rate, in dollars per hour, after the raise?

- A** \$15.00 **B** \$2.40
C \$480 **D** \$18.40



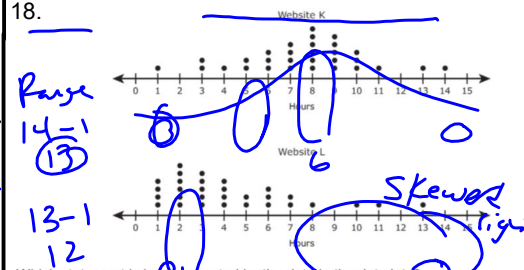
- A** Linear **B** Quadratic
C Exponential



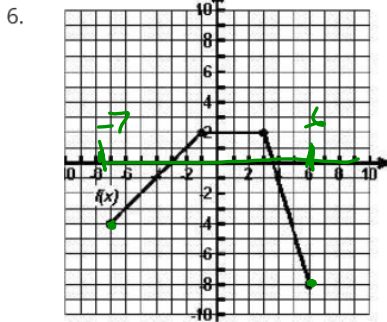
12. Mario had 102 dollars to spend on 9 books. After buying them he had 21 dollars. How much did each book cost?

- A** \$11 **B** \$10
C \$9 **D** \$8

The dot plots below show the numbers of hours teenagers spent on two different websites last week.



- F** The mode of the data for Website K is greater than the mode of the data for Website L.
G The range of the data for Website L is equal to the range of the data for Website K.
H The distribution of data for Website L is symmetrical.
J The distribution of data for Website K is skewed to the left.



What is the DOMAIN of the function?

- A [-7, 6] B (-7, 6)
 C [-8, 2] D [-7, -8]

15. Josh is thinking of two numbers. Their sum is -10 and their difference is -2. Which system of equations represents the situation?

- A $x = -2$
 $y = 5$ B $x + y = -2$
 $x - y = -10$
 C $x - y = -10$
 $x + y = -2$ D $x + y = -10$
 $x - y = -2$

8. Alexandra finds that she can give 3 haircuts and 2 hair dyes in 315 minutes. Giving 2 haircuts and 4 hair dyes takes 450 minutes. Which system of equations represents the situation?

- A $3x + 2y = 450$
 $2x + 4y = 315$ B $2x + 2y = 315$
 $3x + 4y = 450$
 C $3x + 2y = 315$ ✓
 $2x + 4y = 450$ ✓

9. When you are trying to find the MEDIAN of a set of data and 2 numbers are left in the middle after putting them in order from least to greatest, what do you do?

- A Subtract the 2 numbers B Pick the one you want
 C Add the 2 numbers and divide by 2 D List both numbers as the median

11. Bag A contains 9 red marbles and 3 green marbles. Bag B contains 9 black marbles and 6 orange marbles. Find the probability of selecting one green marble from bag A and one black marble from bag B.

- A $2/27$ B $3/20$
 C $3/31$ D $1/4$

multiply Probabilities
 Or add

17. A dolphin jumps from the water at an initial velocity of 16 feet per second. The equation $h = -16t^2 + 80t$ models the dolphin's height at any given time, t . What is the maximum height the dolphin jumps?

- A 1 foot B 96 feet
 C 5 feet D 100 feet

$a = -16$ $b = 80$
 $x = \frac{-b}{2a} = \frac{-80}{2(-16)} = \frac{-80}{-32} = 2.5$
 $-16(2.5)^2 + 80(2.5)$
 100

16. The height of an object thrown into the air can be modeled by the formula $y = -16x^2 + 70x + 95$, where y is in feet after x seconds. What is the height of the object after 5 seconds?

- A 171.56 feet B 45 feet
 C 95 feet D 70 feet

$f(x) = 2x^2 - 5x$
 $2(x-2)^2 - 5(x-2)$
 $2(x^2 - 4x + 4) - 5x + 10$
 $2x^2 - 8x + 8 - 5x + 10$
 $2x^2 - 13x + 18$

19.

- A $2x^2 - 13x + 18$
 B $2x^2 - 8x + 3$
 C $2x^2 - 13x + 18$
 D $2x^2 - 5x + 18$

20. Given that $f(x) = x^2 + x$ and $g(x) = 3x + 1$, find the value of $f(g(4))$.

- A 61 B None of the Above
 C 40 D 182

14. The ratio of cups of sugar to cups of flour needed to bake cookies is 1:5. If Myesha uses 25 cups of flour, how much sugar is needed?

- A 125 cups B 10 cups
 C 5 cups D 15 cups

$\frac{1x}{5x} = \frac{25f}{x}$
 $5x = 25f$
 $x = 5$