Practice PSAT/SAT Questions NAME: _____

1.) Kathy is a repair technician for a phone company. Each week, she receives a batch of phones that need repair. The number of phones that she has left to fix at the end of the day can be estimated with the equation $P = 108 - 23d$, where P is the number of phones left and d is the number of days she has worked that week. What is the meaning of the value of 108 in this equation?

A) Kathy will complete the repairs within 108 days.

B) Kathy starts each week with 108 phones to fix.

C) Kathy repairs phones at a rate of 108 per hour.

D) Kath repairs phones at a rate of 108 per day.

2.) On Saturday afternoon, Armand sent m text messages each hour for 5 hours, and Tyrone send p text messages each hour for 4 hours. Which of the following represents the total number of messages sent by Armand and Tyrone on Saturday afternoon?

m p sum

A) $9mp$

B) $20mp$

C) $5m + 4p$ $5m+4p$

D) $4m + 5p$

3.) If $\frac{x-1}{3} = k$, and $k = 3$, what is the value of x?

substitution

A) 2

B) 4

C) 9 $3 \cdot \frac{x-1}{3} = 3 \cdot 3$ $x-1=9$ $x=10$

D) 10

4.) If $\frac{a}{b} = 2$, what is the value of $\frac{4b}{a}$?

$\frac{b}{a} = \frac{1}{2}$ $4(\frac{1}{2}) = 2$

A) 0

B) 1

C) 2

D) 4

5.) $g(x) = ax^2 + 24$

For the function g defined above, a is a constant and $g(4) = 8$. What is the value of $g(-4)$?

A) 8 $8 = a(4)^2 + 24$ $-16 = 16a$ $a = -1$ you use to get a.

B) 0

C) -1 $g(-4) = -1(-4)^2 + 24$ $= -16 + 24$ $= 8$

D) -8

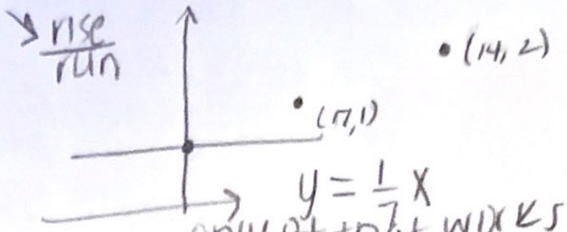
6.) A line in the xy-plane passes through the origin and has a slope of $\frac{1}{7}$. Which of the following points lies on the line?

A) (0,7)

B) (1,7)

C) (7,7)

D) (14,2)



7.) If $a = 5\sqrt{2}$ and $2a = \sqrt{2x}$, what is the value of x?

$2(5\sqrt{2}) = \sqrt{2x}$ $(10\sqrt{2})^2 = (\sqrt{2x})^2$ $\frac{100 \cdot 2}{2} = \frac{2x}{2}$ $x = 100$

8.) If $y = kx$, where k is a constant, and $y = 24$ when $x = 6$, what is the value of y when $x = 5$?

to get k

A) 6 $24 = k(6)$ $k = 4$

B) 15

C) 20 $y = 4(5) = 20$

D) 23

9.) If $16 + 4x$ is 10 more than 14, what is the value of $8x$?

= means equals → 24

A) 2

B) 6 $16 + 4x = 24$

C) 16 $4x = 8$ $x = 2$

D) 80 $8(2) = 16$

10.) For what value of n is $|n - 1| + 1$ is equal to 0?

A) 0 $|n-1| + 1 = 0$

B) 1 $|n-1| \neq -1$

C) 2

D) There is no such value of n. abs value is never −.

11.) Which of the following numbers is NOT a solution of the inequality $3x - 5 \geq 4x - 3$? → solve

A) -1 $-5 \geq x - 3$

B) -2 $-2 \geq x$

C) -3 $x \leq -2$ Not a solution?

D) -5

12.) When 4 times the number x is added to 12, the result is 8. What number results when 2 times x is added to 7?

A) -1

B) 5

C) 8

D) 9

$4x+12=8$

$4x=-4$

$x=-1$

$2x+7$

$2(-1)+7$

$-2+7=5$

13.) If $x=\frac{2}{3}y$ and $y=18$, what is the value of $2x-3$?

A) 21

B) 15

C) 12

D) 10

$x=\frac{2}{3}(18)$ 6

$x=12$

$2(12)-3$

$24-3=21$