SAT Sample Worksheet

Student Name_____ Date_____

1. What is the rate of change shown in the graph of the line below?
   a. -2
   b. $-\frac{1}{2}$
   c. $\frac{1}{2}$
   d. 2

2. Which of the following is the graph of the equation $y = -\frac{1}{2}x + 3$ in the xy plane?

   a. A line with a positive slope passing through (0, 3)
   b. A line with a negative slope passing through (0, -3)
   c. A line with a negative slope passing through (0, 3) and (6, 0)
   d. A line with a positive slope passing through (0, -3)

3. If $2a - b = 0$, which of the following must be equivalent to a+b?

   a. 2a
   b. 3a
   c. –b
   d. $\frac{1}{2}b$

4. If $-5 + 2x \leq 11$, which inequality represents the possible range of value for 6x-10?

   a. $6x - 10 \leq 16$
   b. $6x - 10 \leq 38$
   c. $6x - 10 \leq 48$
   d. $6x - 10 \geq 38$

5. Which of the following numbers is NOT a solution to the inequality,

   $\frac{2}{3}x - 1 > \frac{5}{6} + \frac{1}{3}x$?

   a. 6
   b. 7
   c. 5
   d. 10

6. A bakery sells two types of cookies. Chocolate chip cookies contain 25% sugar by weight, and Oatmeal cookies contain 15% sugar by weight. Together, the cookies sold contain a total of 50 pounds of sugar. Which equation models this relationship, where c is the pounds of Chocolate chip cookies and m is the pounds of Oatmeal cookies?

   a. $25c + 15m = 50$
   b. $0.15c + 0.25m = 50$
   c. $0.25c + 0.15m = 50$
   d. $c + m = 50$

7. At a tech store, Sarah paid $1,100 for a laptop and a tablet. The tablet cost $100 more than half of what the laptop cost. What is the minimum price of the laptop to the nearest dollar?

8. A system of inequalities is given by:

$$\begin{Bmatrix} y + x \geq 2 \\ y \leq \frac{1}{2}x \end{Bmatrix}$$

   Which quadrant(s) of the xy-plane contain no solutions to this system?

9. A circle in the xy-plane has center (3, -4) and a radius with endpoint (7, -4). Which of the following is an equation of the circle?

   A. $(x-3)^2+(y+4)^2=4$
   B. $(x+3)^2+(y-4)^2=16$
   C. $(x-3)^2+(y+4)^2=16$
   D. $(x-7)^2+(y+4)^2=49$

10. Find the average of x and y.

   $x+2y=30$

   $2x+y=6$

11. The salary of an employee is first decreased by 8% and thereafter it was increased by 8 %. What was the percent change in his salary?

   a. 64%
   b. 16%
   c. 0.64%
   d. None

12. $\frac{2}{x}+\frac{3}{y}+\frac{5}{xy}=\frac{A}{xy}$

   What is the expression for A?

   A. 2x+3y+5xy
   B. 2y+3x+5
   C. 2x+2y+5
   D. 10xy

13. f (2) = 3 and f (−6) = −13. If f (x) is a linear function, what is the y-intercept of f (x)?
   A. -1
   B. 0
   C. 1
   D. 2

14. $5x + 3y = 3c$
   $2y = c - 4x$
   If $x + y = 6$, what is the value of c for the system of equations above?
   A. 2
   B. 3
   C. 4
   D. 5

15. If $2x^2 - 2y^2 = 72$ and $x + y = 18$ what is the value of $x - y$?
   A. 2
   B. 4
   C. 6
   D. 8

16. $f(x) = 2x^2 + a$
   If 'a' is a constant and f (2) + f (3) = f (5), what is the value of a?
   A. 6
   B. 12
   C. 24
   D. 48