Math Level 1 SAT Practice Test 15

1. What is the point of intersection of the line that passes through the points (1,5)and (3,9) and the line perpendicular to that line that passes through the point (0,-2)?

A. (-2,-1)

B. (-2,2)

C. (2,-2)

D. (-1,-2)

E. (1,2)

2. Solve for x: $| 4x - 3 | - 9 < 0$.

A. $1.5 \le x \le 3$

B. $x < 3$

C. $x < 1.5$ or $x > 3$

D. $x \le -3$

E. $-1.5 < x < 3$

3. Given that $i = \sqrt{-1}$, what is the multiplicative inverse of 5- i?

A. 5 + i

B. $\dfrac{5+i}{26}$

C. $\dfrac{1}{5+i}$

D. $\dfrac{5+i}{24}$

E. $\dfrac{5-i}{24}$

4. What is the value of x: $\log_x 125 = 3$?

A. 5

B. 41.7

C. 122

D. 128

E. 375

5. Given $f(x) = 7x + 5$, what is $f^{-1}(x)$, the inverse function?

A. $f^{-1}(x) = 7x + 5$

B. $f^{-1}(x) = 5x + 7$

C. $f^{-1}(x) = \frac{1}{7}x + \frac{1}{5}$

D. $f^{-1}(x) = \frac{1}{7}x - 5$

E. $f^{-1}(x) = \frac{x-5}{7}$

6. Take 6 less than a number n. If you raise this result to the 5th power, it is equal to 32. What is the value of n?

A. 2

B. 2.07

C. 4 only

D. 4 or 8

E. 8 only

7. Take a fraction that is equivalent to $\frac{3}{5}$ and add 2 to both the numerator and the denominator. If the result is $\frac{5}{8}$ ，what was the original fraction?

A. $\frac{8}{14}$

B. $\frac{3}{6}$

C. $\frac{13}{22}$

D. $\frac{18}{30}$

E. Cannot be determined.

8. Simpllf y: $\left(x - 3 - \frac{4}{x}\right)\left(\frac{3}{x+1}\right).$

A. $\dfrac{3(x-4)}{x}$

B. $2x - 4$

C. $\dfrac{-6(x+2)}{x+1}$

D. -7

E. -12

9. When $3x^3 + 2x^2 + 2x + k$ is divided by $x + 2$, the remainder is 4. What is the value of k?

A. 4

B. 24

C. 34

D. 54

E. $x + 4$

10. Simpllf y: $\dfrac{(8x^2y^3)^3 z^2}{4x^{-2}y^5 z^4}$.

A. $2x^4yz^2$

B. $\dfrac{128x^8y^4}{z^2}$

C. $2x^8y^4z^2$

D. $\dfrac{128x^8y}{z^2}$

E. $6y^4z^2$

11. What is the solution to this system of equations?
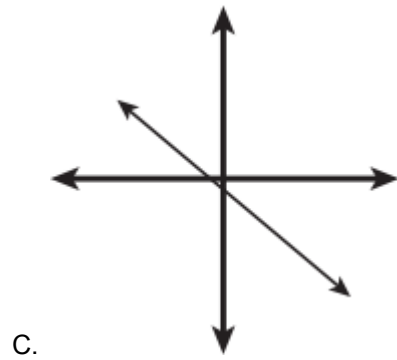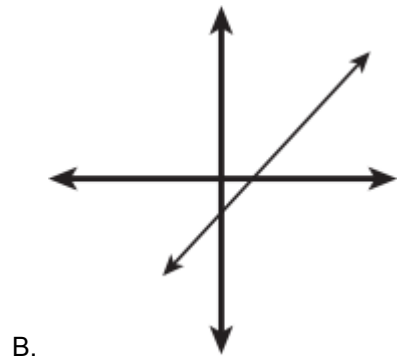
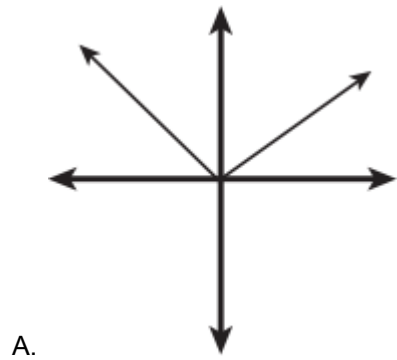$$y = x^2 + 4x - 1$$
$$-3x + y = 1$$

A. (1,4) and (-2,5)
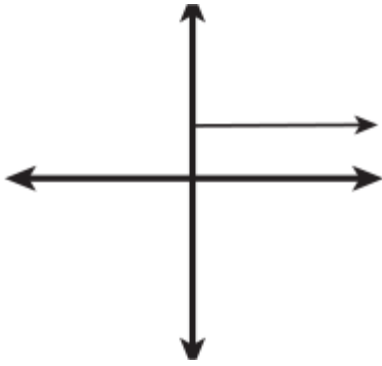
B. (1,-4) and (2,11)

C. (1,4) and (-2,-5)

D. (-2,7)

E. (0,1)

**12.** Which of the following graphs is NOT a function?

A.

B.

C.

D.
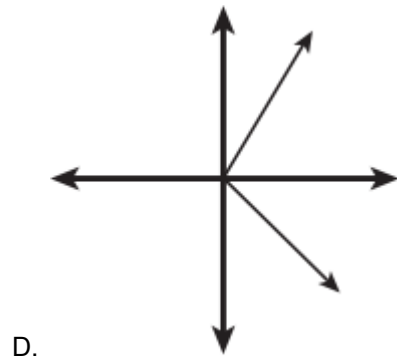
E.

13. What is the solution to this system of equations?

$$x^2 + y^2 = 25$$
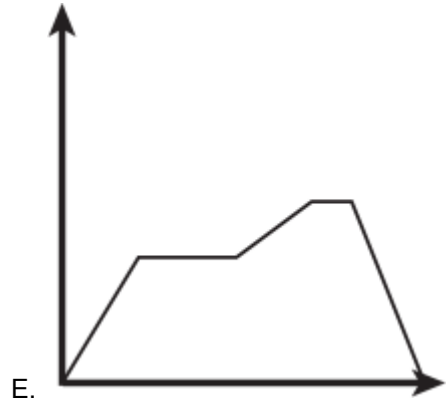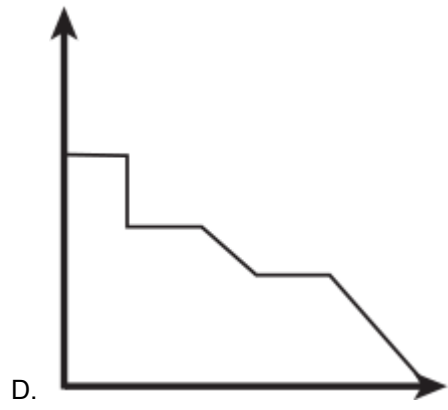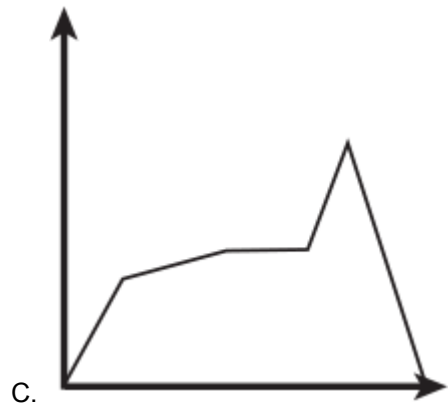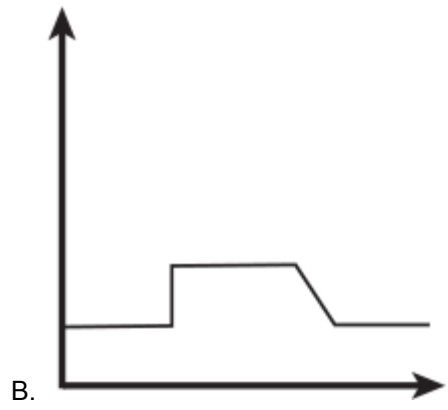$$x - y = 5$$

A. (-5,0) only

B. (0,5) only

C. (0,-5) and(-5,0)

D. (0,5) and (5,0)

E. (0,-5) and (5,0)

14. A bus travels from point *A* to point *B*. the bus starts out going slowly and the n drives faster. Traffic is the n at a total standstill due to an accident. the bus continues at the faster speed. the bus reaches point *B*. Which of the following graphs could represent the bus's distance from point *A*, as a function of time?

A.

B.

C.

D.

E.
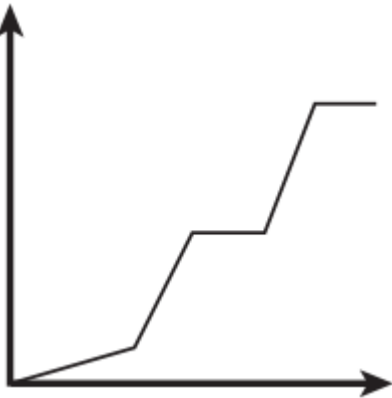
15. A parallelogram has angles of measure 45 degrees and 135 degrees. the shorter side of the parallelogram measures 2.83 meters, and the o the r side is 8.83 meters. What is the area of the parallelogram, to the nearest hundredth?

A. 8.83 m²

B. 12.49 m²

C. 17.67 m²

D. 23.32 m²

E. 24.99 m²

16. A fitness club offers weights, treadmills, and aerobic classes. FIf ty members were asked which services the y used, and the results were as follows:

18members use weights and do aerobics.
25members use weights and the treadmill.
15members use the treadmill and do aerobics.
10members use all three activities.
How many members use only one of the three services?

A. 0

B. 10

C. 12

D. 18

E. 40

17. Given the equation $y = \dfrac{x+7a}{x-a^2}$, what is x in terms of y and a?

A. $x = \dfrac{y+7a}{y-a^2}$

B. $x = \dfrac{y+7a}{ya^2}$

C. $x = \dfrac{ya^2+7a}{y-1}$

D. $x = y(a^2 + 7a)$

E. $x = (y +7a)(y - a^2)$

18. Solve for x to the nearest hundredth: $\sqrt[3]{\dfrac{2x+3}{5}} = \dfrac{2}{3}$.

A. -0.76

B. -0.69

C. -0.67

D. 0.69

E. 0.76

19. If $x = y^3 + 4y$ and $y = \dfrac{7}{k}$, what is the approximate value of x when $k = 21$?

A. 1.37

B. 1.44

C. 1.67

D. 4.04

E. 4.11

20. Solve for x: $\dfrac{1}{x} + \dfrac{4}{5x} = \dfrac{2}{x+5}$.

A. 0.71

B. 3.57

C. 5.8

D. 25

E. 45