Random Math SAT Problems Set A

1. If $2x - 7 = 3x - 10$, then $x - 5 = ?$

(A) -3
(B) -2
(C) -1
(D) 2
(E) 8

2. If twice of r is 10 more than s, then what is the value of $\frac{3}{5}(2r - s) = ?$

(A) -10
(B) -6
(C) 6
(D) 8
(E) 10

3. If $\left(\frac{1}{2}\right)^x = 16$, then $x = ?$

(A) -4
(B) -2
(C) 2
(D) 4
(E) 8

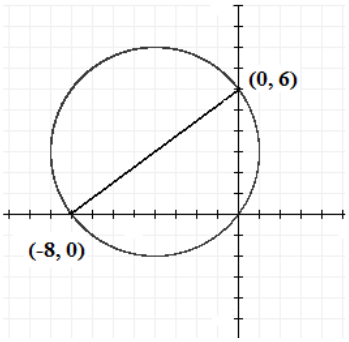
4. If $x > 0$ and $y < 0$, then which of the following must be true?

(A) $y - x > 1$
(B) $x + y > x$
(C) $x - y > 0$
(D) $xy > 0$
(E) $\frac{x}{y} > 0$

5. Which of the following is the 10^{th} term of the sequence 9, 12, 15, 18...?

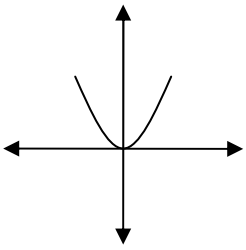
(A) 24
(B) 27
(C) 30
(D) 33
(E) 36

6. A line l is perpendicular to the line m. Line m passes through the origin and point (2, 4). If line l also passes though origin then which of the following points does not lie on l?
(A) (-6, 3)
(B) (0, 0)
(C) (2, -1)
(D) (4, -2)
(E) (10, -4)



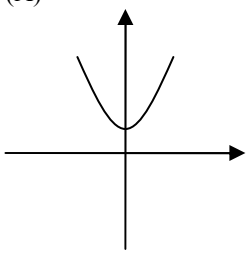
7. What is the circumference of the circle whose diameter is shown in the figure above?

(A) 5π
(B) 10π
(C) 12.5π
(D) 15π
(E) 25π

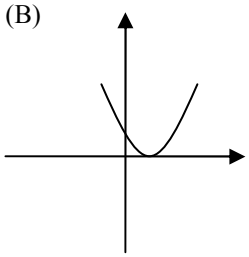


8. Given the graph of $y = f(x)$ above, which of the following represents the graph of $y = f(x + 2)$?

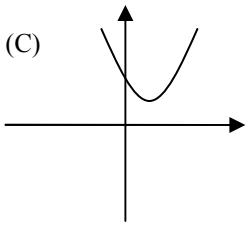
(A)



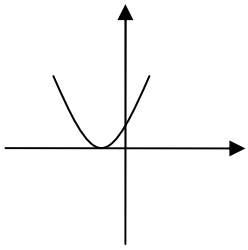
(B)



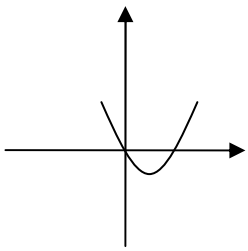
(C)

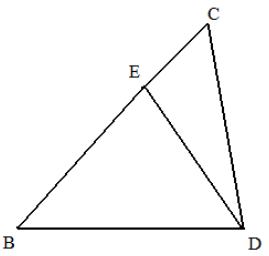


(D)



(E)





Note: Figure is not drawn to scale

9. In the figure given above, ΔBED is a equilateral triangle. If BC is a straight line and the measure of $\angle ECD = 50°$, what is the measure of $\angle EDC$?

(A) 10°
(B) 30°
(C) 40°
(D) 50°
(E) 65°

10. John divides marbles between his three friends. The ratio of marbles given to Jim and Jack is 2:5 and the ratio of marbles given to Jack and Melissa is 3: 7. What is the least possible number of marbles Jack has received?

(A) 10
(B) 15
(C) 25
(D) 35
(E) 70

Answer Key

1. B
2. C
3. A
4. C
5. E
6. E
7. B
8. D
9. A
10. B