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Exam : ACT Math

**Title : ACT American College
Testing: Math Section**

Version : DEMO

1.If the expression $\frac{3}{2+x} = \frac{x-5}{2x}$, then one possible value of x could be:

- A. - 1
- B. - 2
- C. - 5
- D. 1
- E. 2

Answer: A

Explanation:

Cross multiply and solve for x:

$$3 \times 2x = (2 + x) \times (x - 5)$$

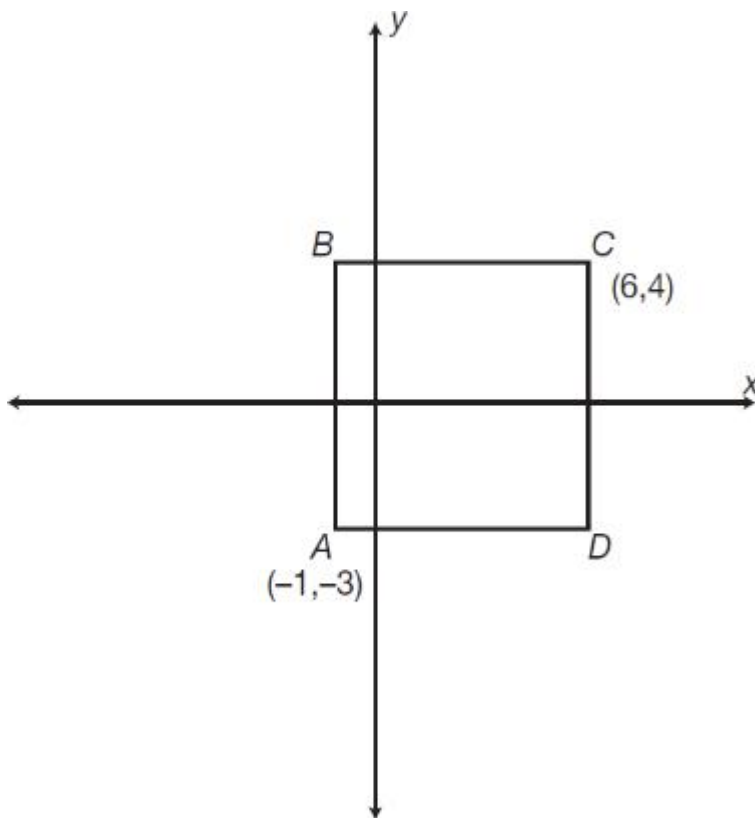
$$6x = x^2 - 3x - 10$$

$$x^2 - 9x - 10 = 0$$

$$(x - 10) \times (x + 1)$$

$$x = 10, x = -1$$

2.In the graph above, ABCD is a square.



What are the coordinates of point B?

- A. (-1, -4)
- B. (-1, 4)
- C. (-1, 6)
- D. (-3, 1)
- E. (-3, 4)

Answer: B

Explanation:

Point B is the same distance from the y-axis as point A, so the x-coordinate of point B is the same as the x-coordinate of point A (-1). Point B is the same distance from the x-axis as point C, so the y-coordinate of point B is the same as the y-coordinate of point C (4). The coordinates of point B are (-1, 4).

3. Line $y = \frac{2}{3}x - 5$ is perpendicular to line:

- A. $y = \frac{2}{3}x + 5$
- B. $y = 5 - \frac{2}{3}x$
- C. $y = -\frac{2}{3}x - 5$
- D. $y = \frac{2}{3}x - 5$
- E. $y = -\frac{2}{3}x + 5$

Answer: E

Explanation:

Perpendicular lines have slopes that are negative reciprocals of each other. The slope of the line given is $\frac{2}{3}$. The negative reciprocal of $\frac{2}{3}$ is $\frac{3}{2}$. Every line with a slope of $-\frac{3}{2}$ is perpendicular to the given line; $y = -\frac{3}{2}x + 5$ is perpendicular to $y = \frac{2}{3}x - 5$.

4. If 30% of r is equal to 75% of s , what is 50% of s if $r = 30$?

- A. 4.5
- B. 6
- C. 9
- D. 12
- E. 15

Answer: B

Explanation:

If $r = 30$, 30% of $r = 0.30 \times 30 = 9$. 9 is equal to 75% of s . If $0.75s = 9$, then $s = 12$. 50% of $s = 0.50 \times 12 = 6$.

5. A dormitory now houses 30 men and allows 42 square feet of space per man.

If five more men are put into this dormitory, how much less space will each man have?

- A. 5 square feet
- B. 6 square feet
- C. 7 square feet
- D. 8 square feet
- E. 9 square feet

Answer: B

Explanation:

$30 \text{ men} \times 42 \text{ square feet} = 1260 \text{ square feet of space}$; $1260 \text{ square feet} \div 35 \text{ men} = 36 \text{ square feet}$; $42 - 36 = 6$, so each man will have 6 less square feet of space.