

Name:

5-a-day ACT prep #4

Solve each problem, show your work, and then choose the correct answer.

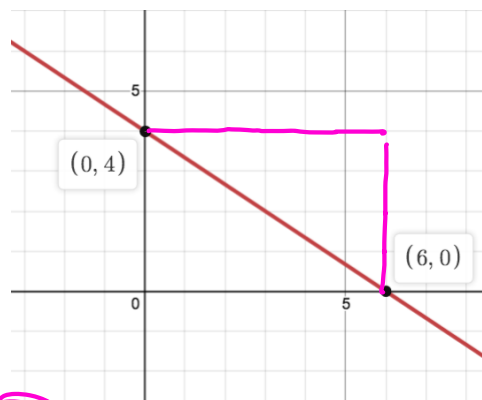
Do not linger over problems that take too much time. Solve as many as you can; then return to the others in the time you have left for this test.

You are permitted to use a calculator on this test. You may use your calculator for any problems you choose, but some of the problems may best be done without using a calculator.

Note: Unless otherwise stated, all of the following should be assumed.

1. Illustrative figures are NOT necessarily drawn to scale.
2. Geometric figures lie in a plane.
3. The word *line* indicates a straight line.
4. The word *average* indicates arithmetic mean.

1. What is the equation of the line shown?



- A. $2x + 3y = 12$
- B. $4x + 6y = -24$
- C. $6x - 4y = 12$
- D. $2x - 3y = -12$
- E. $4x - 6y = 24$

$$\text{slope} = -\frac{4}{6} = -\frac{2}{3}$$

$$y = -\frac{2}{3}x + 4$$

$$3y = -2x + 12$$

$$2x + 3y = 12$$

2. $(3x^2 + 5x - 1) - (x^2 - 2x - 3)$ is equivalent to:

- A. $2x^2 + 3x - 4$
- B. $2x^2 + 3x - 2$
- C. $2x^2 + 7x + 2$
- D. $4x^2 + 3x - 4$
- E. $4x^2 + 7x + 2$

$$2x^2 + 7x + 2$$

3. Evaluate the expression

$x^2 - 2x$ when $x = -3$.

- A. -15
- B. -3
- C. 3
- D. 6
- E. 15

$$(-3)^2 - 2(-3)$$

$$9 + 6 = 15$$

4. What is the value of x in the equation

$$4\frac{2}{3} = x + 3\frac{4}{5}?$$

- A. $\frac{3}{4}$
- B. $\frac{13}{15}$
- C. $1\frac{4}{15}$
- D. $1\frac{1}{2}$
- E. $1\frac{3}{4}$

$$4\frac{2}{3} - 3\frac{4}{5}$$

$$1$$

$$4 \cdot \frac{2}{3} - \frac{4}{5} \cdot 3$$

$$\frac{10}{3} - \frac{12}{5} = -\frac{2}{15}$$

$$\frac{15}{15} - \frac{2}{15} = \frac{13}{15}$$

5. On the number line, what is the midpoint of -3 and 15 ?

- A. 3
- B. 6
- C. 9
- D. 12
- E. 18

$$\frac{-3 + 15}{2} = \frac{12}{2} = 6$$