Name:

5-a-day ACT prep #11

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. Which of the following is equivalent to $\frac{7.5 \times 10^{7}}{1.5 \times 10^{10}}$?

A. 5.0×10^{-3}
B. 5.0×10^{3}
C. 5.0×10^{17}
D. 6.0×10^{-3}
E. 6.0×10^{3}

2. What is the slope of a line parallel to the line given by the equation $y - 7 = 2(x + 3)$?

A. -2
B. $-\frac{1}{2}$
C. $\frac{1}{2}$
D. 2
E. Undefined

3. Which of the following expressions is equivalent to $\frac{3x^2-2}{6x}$?

A. x
B. $\frac{1}{6}$
C. $\frac{x}{2} - \frac{1}{3x}$
D. $\frac{x^2-1}{2x}$
E. None of these

4. If $6x - 18 = 2(3x - 7) - 4$, what must be true about the solution?

A. $x = 0$
B. $x \geq 0$
C. $x \leq 0$
D. There is no solution.
E. x can be any real number.

5. If $3x - 4y = -19$ *and* $x + 4y = -1$, what is the value of $2x + 6y$?

A. -16
B. -4
C. -1
D. 8
E. None of these