Name:

5-a-day ACT prep #10

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. A car is depreciating (losing it's value) at the rate of 13% each year. If the original value of the car is $37,000, which of the following expresses the value of the car t years after the original purchase in dollars?

A. $37,000 - (0.13)^t$
B. $37,000 - 37,000(0.13)^t$
C. $37,000(0.13)^t$
D. $37,000(0.87)^t$
E. None of these.

2. What is the slope of the line given by the equation $x = -3$?

A. -3
B. $-\frac{1}{3}$
C. 0
D. $\frac{1}{3}$
E. Undefined

3. Assume $x \geq 0$ and $y \geq 0$. Simplify $-2x\sqrt{12xy^2} + 3y\sqrt{3x^3} - 2\sqrt{48x^3y^2}$?

A. $-37xy\sqrt{3x^3y^2}$
B. $-xy\sqrt{63x^3y^2}$
C. $-12xy\sqrt{63x}$
D. $-9xy\sqrt{3x}$
E. None of these

4. On their last math test, Grant scored three more than twice the points that his friend Hayden did. If they scored 126 points altogether, find Grant's score. `

A. 41
B. 44
C. 82
D. 85
E. None of these.

5. Parallelogram $MATH$ has a perimeter of 50 units, and side $\overline{MA}$ has a length of 8 units. If it can be determined, what is the length of side $\overline{AT}$?

A. 12.5
B. 16
C. 17
D. 21
E. Cannot be determined