

Name:

<p>5-a-day ACT prep #12</p> <p>Solve each problem, show your work, and then choose the correct answer.</p> <p>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.</p> <p>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.</p> <p>Note: Unless otherwise stated, all of the following should be assumed.</p> <ol style="list-style-type: none">1. Illustrative figures are NOT necessarily drawn to scale.2. Geometric figures lie in a plane.3. The word <i>line</i> indicates a straight line.4. The word <i>average</i> indicates arithmetic mean.	<p>1. Which of the following expressions is NOT equivalent to $\frac{4x^7y^{-1}}{(5y)^2 - 7y^2}$?</p> <ol style="list-style-type: none">A. $\frac{2x^7}{9y^3}$B. $\frac{4x^7}{5y^3}$C. $\frac{(2x^5y)^3}{36x^8y^6}$D. $\left(\frac{2}{3}x^5y^{-5}\right)\left(\frac{1}{3}x^2y^2\right)$E. They are all equivalent
<p>2. The lines represented by the equations $x + y = -3$ and $x - y = 1$ intersect at the point M. What is the sum of the x and y coordinate of point M?</p> <ol style="list-style-type: none">A. -3B. -2C. -1D. 1E. None of these	<p>3. The ratio of boys to girls in Mrs. Coates' class is 3 to 5. If there are a total of 15 girls in her class, how many boys are there?</p> <ol style="list-style-type: none">A. 9B. 10C. 11D. 12E. None of these
<p>4. If $9x + 4 = 3(3x + 1)$, what must be true about the solution?</p> <ol style="list-style-type: none">A. $x = 1$B. $x = -1$C. $x \leq 1$D. There is no solution.E. x can be any real number.	<p>5. What is the slope of a line perpendicular to the line given by the equation $3x - 2y + 10 = 0$?</p> <ol style="list-style-type: none">A. -3B. $-\frac{2}{3}$C. $-\frac{1}{3}$D. $\frac{1}{3}$E. None of these