

Problems of the Week # 15

Name: _____

Date: _____

Circle the one best answer. Justify your answer by showing all work below.

71. Simplify: $-\sqrt{12} + 2\sqrt{27} - \sqrt{75}$

- A. $-\sqrt{3}$ B. $\sqrt{3}$ C. $-11\sqrt{3}$ D. $-2\sqrt{3}$ E. cannot be simplified

72. A tricycle has a tire with a circumference of 22 inches. How many revolutions does the tire make as the tricycle rolls 11 feet?

- A. 6π B. 6 C. 2π D. 2 E. $\frac{1}{2}$

73. Solve for x : $3^{-2x} \cdot 3^3 = 3^{15}$

- A. $-\frac{15}{6}$ B. -6 C. -9 D. $\frac{15}{6}$ E. $-\frac{5}{2}$

74. The inequality $4x + 8 > 6x - 7$ is equivalent to:

- (A) $x < \frac{7}{6}$ (B) $x > \frac{15}{2}$ (C) $x < \frac{15}{2}$
(D) $x < \frac{1}{2}$ (E) $x > -\frac{1}{2}$

75. If a rectangular box has sides of length x , $x-4$, and $x+3$ (where $x > 4$), then the volume of the box can be represented by which of the following expressions?

- A. $x^3 - x^2 - 12x$ B. $x^3 + x^2 - 12x$ C. $x^3 - x^2 - 12$
D. $x^3 - 12$ E. $x^3 - x - 12$