

## Problems of the Week # 12

Name: \_\_\_\_\_

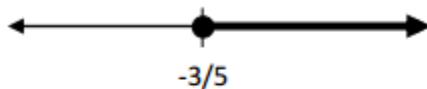
Date: \_\_\_\_\_

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

56. If the zeros of a quadratic function are  $-5$  and  $3$ , one possible quadratic function having these zeros is:

A.  $f(x) = (x - 5)(x + 3)$       B.  $f(x) = x^2 - 2x - 15$       C.  $f(x) = 2x^2 - 4x - 30$   
D.  $f(x) = x^2 + 2x - 15$       E.  $f(x) = x^3 + 2x^2 - 15x$

57. Given:



This is an illustration of the solution set for which inequality below?

- A.  $-5x \leq 3$       B.  $-5x > 3$       C.  $5x \leq -3$       D.  $5x > -3$       E.  $-5x \geq -3$
58. Solve the equation  $7^{5x} \cdot 7^{-3} = 1$  for  $x$ .

A.  $\frac{4}{5}$       B.  $\frac{3}{5}$       C.  $\frac{1}{49}$       D. 1      E. 49

59. After a 12% reduction, the sale price of a pair of flip-flops was \$9.46. Before the reduction, the original price was

A. \$8.32      B. \$9.34      C. \$9.58      D. \$10.75      E. \$10.88

60. If the coordinates of one endpoint of a line segment are  $(3, -4)$  and the midpoint of the segment has coordinates  $(-1, 2)$ , what are the coordinates of the other endpoint of the segment?

A.  $(7, -10)$       B.  $(-2, 3)$       C.  $(1, -1)$       D.  $(2, -3)$       E.  $(-5, 8)$