Unit 2: Quadratic Functions Lesson 2.3

Coach's Corner - VI

1. Solve the following equations using the quadratic formula.

   a. $x^2 - 17x - 9 = 0$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$
$$= \frac{-(-17) \pm \sqrt{(-17)^2 - 4(1)(-9)}}{2(1)}$$
$$= \frac{17 \pm \sqrt{325}}{2}$$
$$= \frac{17 \pm 5\sqrt{13}}{2}$$

   b. $4x^2 = -x - 14$

$$4x^2 + x + 14 = 0$$
$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$
$$= \frac{-1 \pm \sqrt{1^2 - 4(4)(14)}}{2(4)}$$
$$= \frac{-1 \pm \sqrt{-223}}{8}$$

   The radicand is negative, so there are no real solution values.

2. Use technology to determine the roots of $29 = 3x^2 + 7x$.

$0 = 3x^2 + 7x - 29$

Graph $f(x) = 3x^2 + 7x - 29$ and find the x-intercepts.

$x = -4.49, 2.15$