Unit 8, Lesson 4

Equations and Their Zeros

Let's work with equations in standard and factored forms.

4.1 Math Talk: Equations with Zero

Mentally solve each equation for a.

- $4a = 0$
- $3 \cdot 0 = 14a$
- $0 \cdot a = 0$
- $ab = 0$ with $b \neq 0$

4.2 Evaluating Quadratic Equations

1. Evaluate each function for $x = 6$.
   a. $f(x) = (x + 4)(x - 6)$

   b. $g(x) = (x - 6)(x + 6)$

   c. $h(x) = x^2 - 6x$

   d. $j(x) = 2(\frac{2}{3}x + 8)(x - 6)$

   e. $k(x) = 0.5x^2 - 3x$

2. What do these functions have in common?

3. For each function, find another value of x that would give the same output as you found earlier.

4.3 Card Sort: Matching Equation Forms

Your teacher will give you a set of cards. Match each function in standard form with an equivalent function in factored form. Record your matches and be prepared to explain your reasoning.