

## Lesson 4: Equations and Their Zeros

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

### 4.1: Math Talk: Equations with Zero

Mentally find a value for  $a$  that will make the equation true.

$$4a = 0$$

$$3 \cdot 0 = 14a$$

$$0 \cdot a = 0$$

$$ab = 0 \text{ with } b \neq 0$$

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

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.