

Unit 7 Lesson 4: Equations and Their Zeros

1 Math Talk: Equations with Zero (Warm up)

Student Task Statement

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

$$4a = 0$$

$$3 \cdot 0 = 14a$$

$$0 \cdot a = 0$$

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

2 Evaluating Quadratic Equations

Student Task Statement

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.

3 Card Sort: Matching Equation Forms

Student Task Statement

Your teacher will give you a set of cards. Match each function in standard form with an equivalent function in factored form.