

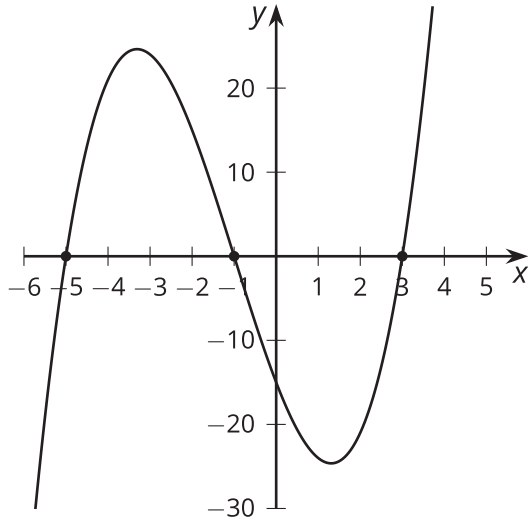
Unit 2 Lesson 5: Connecting Factors and Zeros

1 Notice and Wonder: Factored Form (Warm up)

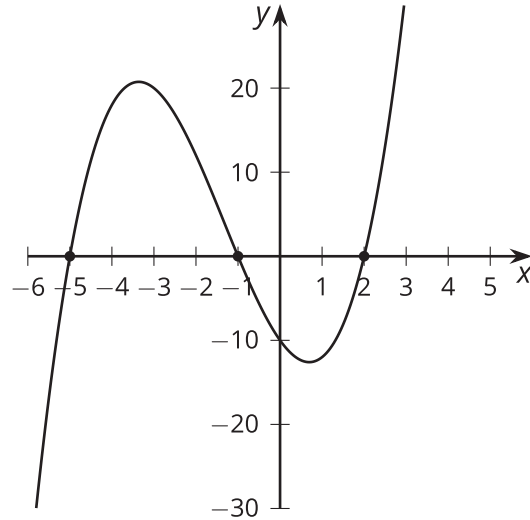
Student Task Statement

What do you notice? What do you wonder?

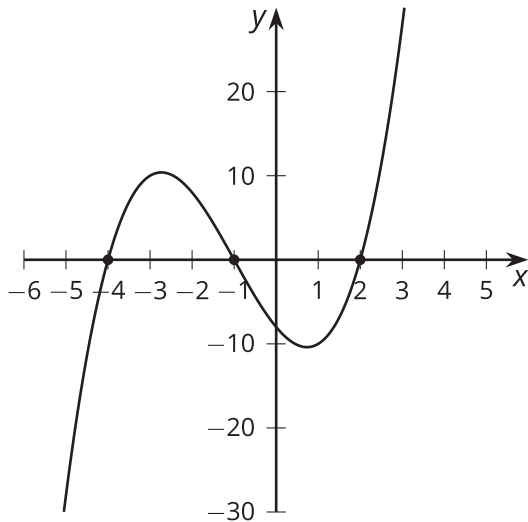
$$f(x) = (x + 5)(x + 1)(x - 3)$$



$$g(x) = (x + 5)(x + 1)(x - 2)$$



$$h(x) = (x + 4)(x + 1)(x - 2)$$



2 What Values of x Make These Equations True?

Student Task Statement

Find all values of x that make the equation true.

1. $(x + 4)(x + 2)(x - 1) = 0$

2. $(x + 4)(x + 2)(x - 1)(x - 3) = 0$

3. $(x + 4)^2(x + 2)^2 = 0$

4. $-2(x - 4)(x - 2)(x + 1)(x + 3) = 0$

5. $(2x + 8)(7x - 3)(x - 10) = 0$

6. $x^2 + 3x - 4 = 0$

7. $x(3 - x)(x - 1)(x + 0.75) = 0$

8. $(x^2 - 4)(x + 9) = 0$

3 Factors, Intercepts, and Graphs

Student Task Statement

Your teacher will give you a set of cards. Match each equation to either a graph or a description.

Take turns with your partner to match an equation with a graph or a description of a graph.

1. For each match that you find, explain to your partner how you know it's a match.
2. For each match that your partner finds, listen carefully to their explanation. If you disagree, discuss your thinking and work to reach an agreement.