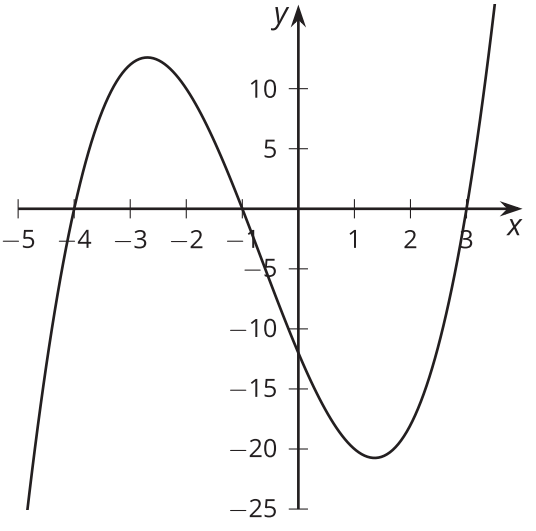
Lesson 7 Practice Problems

1. Diego wrote $f(x) = (x + 2)(x - 4)$ as an example of a function whose graph has x-intercepts at $x = -4, 2$. What was his mistake?

2. Write a possible equation for a polynomial whose graph has horizontal intercepts at $x = 2, -\frac{1}{2}, -3$.

3. Which polynomial function's graph is shown here?



A. $f(x) = (x + 1)(x + 3)(x + 4)$

B. $f(x) = (x + 1)(x - 3)(x + 4)$

C. $f(x) = (x - 1)(x + 3)(x - 4)$

D. $f(x) = (x - 1)(x - 3)(x - 4)$

4. Which expression is equivalent to $(3x + 2)(3x - 5)$?

   A. $6x - 3$

   B. $9x^2 - 10$

   C. $9x^2 - 3x - 10$

   D. $9x^2 - 9x - 10$

(From Unit 2, Lesson 4.)

5. What is the value of $6(x - 2)(x - 3) + 4(x - 2)(x - 5)$ when $x = -3$?

(From Unit 2, Lesson 5.)

6. Match each polynomial function with its leading coefficient.

A. $P(x) = (x + 2)(2x - 3)(4x + 7)$	1. 40
B. $P(x) = \frac{1}{2}(x - 2)(2x - 3)(4x + 7)$	2. 8
C. $P(x) = 5(x - 2)(2x - 3)(4x + 7)$	3. 4
D. $P(x) = -(x - 2)(2x - 3)(4x + 7)$	4. 2
E. $P(x) = \frac{1}{4}(x + 2)(2x - 3)(4x + 7)$	5. -8

(From Unit 2, Lesson 6.)