

Lesson 7 Practice Problems

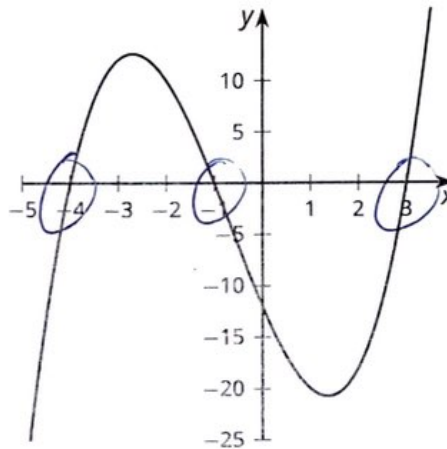
1. Diego wrote $f(x) = (x + 2)(x - 4)$ as an example of a function whose graph has x -intercepts at $x = -4, 2$. What was his mistake?

his signs are reversed
 $(x - 2)(x + 4)$

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

$$f(x) = (x - 2)\left(x + \frac{1}{2}\right)(x + 3)$$

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



$$(x - 3)(x + 1)(x + 4)$$

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

$$9x^2 - 9x - 10$$

(From Unit 2, Lesson 4.)

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

$$= 6(-5)(-6) + 4(-5)(-8)$$

$$= 180 + 160 = 340$$

(From Unit 2, Lesson 5.)

6. Match each polynomial function with its leading coefficient.

#2 A. $P(x) = (x + 2)(2x - 3)(4x + 7)$ ⁸ 1. 40

#3 B. $P(x) = \frac{1}{2}(x - 2)(2x - 3)(4x + 7)$ ⁴ 2. 8

#1 C. $P(x) = 5(x - 2)(2x - 3)(4x + 7)$ ⁴⁰ 3. 4

#5 D. $P(x) = -(x - 2)(2x - 3)(4x + 7)$ ⁻⁸ 4. 2

#4 E. $P(x) = \frac{1}{4}(x + 2)(2x - 3)(4x + 7)$ ² 5. -8

(From Unit 2, Lesson 6.)