Lesson 11 Practice Problems

1. What are the points of intersection between the graphs of the functions $f(x) = x^2(x + 1)$ and $g(x) = x + 1$?

2. Select **all** the points of intersection between the graphs of the functions $f(x) = (x + 5)(x - 2)$ and $g(x) = (2x + 1)(x - 2)$.

   A. $(-5, 0)$

   B. $(-\frac{1}{2}, 0)$

   C. $(-2, -12)$

   D. $(2, 0)$

   E. $(4, 18)$

   F. $(5, 30)$

3. What are the solutions to the equation $(x - 3)(x + 5) = -15$?

4. What are the x-intercepts of the graph of $y = (5x + 7)(2x - 1)(x - 4)$?

   A. $-\frac{7}{5}, -\frac{1}{2}, 4$

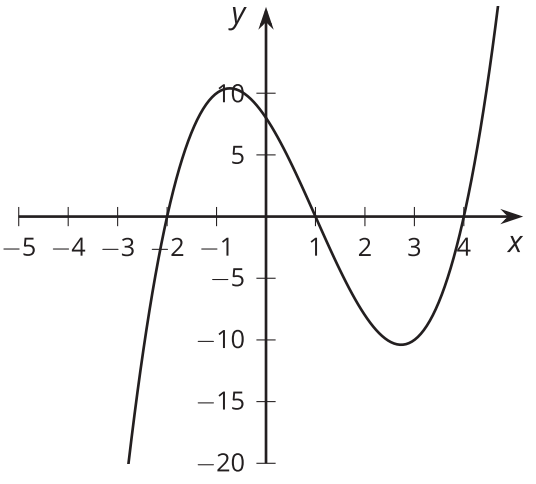
   B. $\frac{5}{7}, \frac{1}{2}, 4$

   C. $-\frac{7}{5}, \frac{1}{2}, 4$

   D. $\frac{5}{7}, 2, 4$

(From Unit 2, Lesson 5.)

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



A. $f(x) = (x + 1)(x + 2)(x + 4)$

B. $f(x) = (x + 1)(x - 2)(x + 4)$

C. $f(x) = (x - 1)(x + 2)(x - 4)$

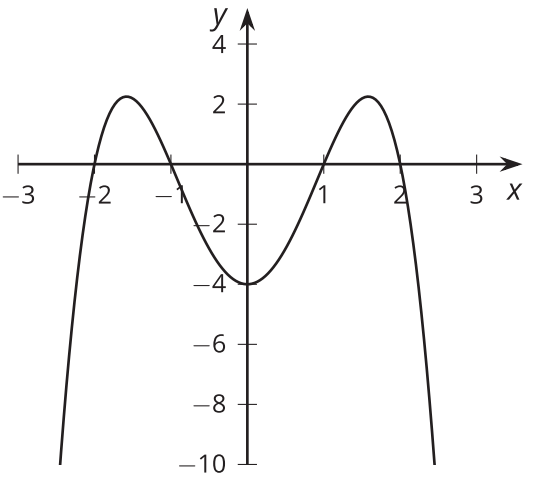
D. $f(x) = (x - 1)(x - 2)(x - 4)$

(From Unit 2, Lesson 7.)

6. Draw a rough sketch of the graph of $g(x) = -x^2(x + 2)$.

(From Unit 2, Lesson 10.)

7. The graph of a polynomial function f is shown.



a. Is the degree of the polynomial odd or even? Explain how you know.

b. What is the constant term of the polynomial?

(From Unit 2, Lesson 9.)