

**Student:** \_\_\_\_\_  
**Date:** \_\_\_\_\_  
**Time:** \_\_\_\_\_

**Instructor:** Fred Khoury  
**Course:** Math 2312-1000 Precalculus (Fall - 2015)  
**Book:** Lial: College Algebra and Trigonometry, 4e

**Assignment:** Quiz Sec 1.2

1. Find the zeros of the polynomial function and state the multiplicity of each.

$$f(x) = 5x(x - 7)^2(x^2 - 1)$$

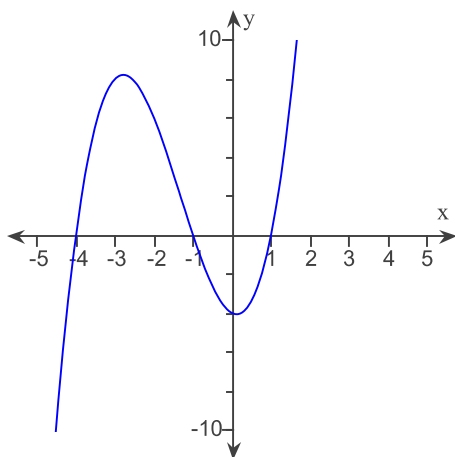
- ☐ A. 0 (multiplicity 1), -1 (multiplicity 2), 7 (multiplicity 2)  
☐ B. -1 (multiplicity 1), 1 (multiplicity 1), 7 (multiplicity 2)  
☐ C. 0 (multiplicity 1), -1 (multiplicity 1), 1 (multiplicity 1), 7 (multiplicity 2)  
☐ D. 0 (multiplicity 1), -1 (multiplicity 2), 1 (multiplicity 2), -7 (multiplicity 2)

2. Find the zeros of the polynomial function and state the multiplicity of each.

$$f(x) = (x^2 + 11x + 28)^2$$

- ☐ A. -4 (multiplicity 4)  
☐ B. 7 (multiplicity 2), 4 (multiplicity 2)  
☐ C. 4 (multiplicity 2), -4 (multiplicity 2)  
☐ D. -4 (multiplicity 2), -7 (multiplicity 2)

3. The graph of  $f(x) = x^3 + 4x^2 - x - 4$  is shown below. Use the graph to factor  $f(x)$ .



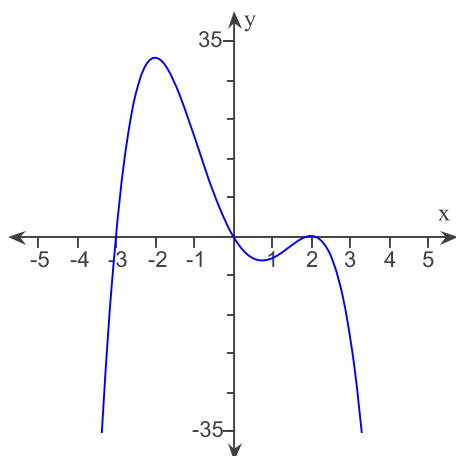
- ☐ A.  $f(x) = (x + 4)(x + 1)(x - 1)$   
☐ B.  $f(x) = (x - 4)(x + 1)(x + 4)$   
☐ C.  $f(x) = (x - 4)(x + 1)(x - 1)$   
☐ D.  $f(x) = -(x + 4)(x + 1)(x - 1)$

**Student:** \_\_\_\_\_  
**Date:** \_\_\_\_\_  
**Time:** \_\_\_\_\_

**Instructor:** Fred Khoury  
**Course:** Math 2312-1000 Precalculus (Fall - 2015)  
**Book:** Lial: College Algebra and Trigonometry, 4e

**Assignment:** Quiz Sec 1.2

4. The graph of  $f(x) = -x^4 + x^3 + 8x^2 - 12x$  is shown below. Use the graph to factor  $f(x)$ .



- ☐ A.  $f(x) = -x(x-3)(x+2)^2$   
☐ B.  $f(x) = -x(x+3)(x-2)^2$   
☐ C.  $f(x) = -x(x-2)(x+3)^2$   
☐ D.  $f(x) = x(x+3)(x-2)^2$

5. Find the correct end behavior diagram for the given polynomial function.

$$P(x) = 8x^6 - x^5 + 4x^2 - 3$$

- ☐ A.
- ☐ B.
- ☐ C.
- ☐ D.





Student: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Time: \_\_\_\_\_

Instructor: Fred Khoury  
 Course: Math 2312-1000 Precalculus (Fall - 2015)  
 Book: Lial: College Algebra and Trigonometry, 4e

Assignment: Quiz Sec 1.2

6. Find the correct end behavior diagram for the given polynomial function.

$$P(x) = -2x^6 + 7x^5 - x^2 - 4x + 9$$

- ☐ A. 
- ☐ B. 
- ☐ C. 
- ☐ D. 

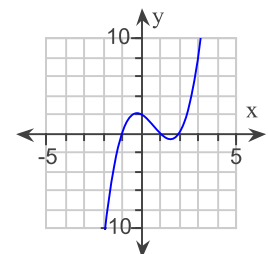
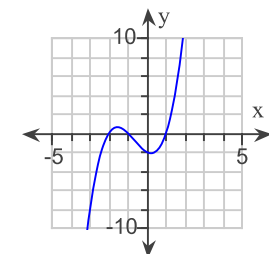
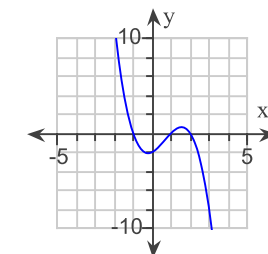
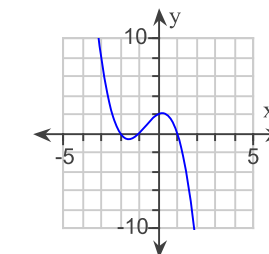
7. Find the correct end behavior diagram for the given polynomial function.

$$P(x) = 3x^7 + 2x^2 - 7$$

- ☐ A. 
- ☐ B. 
- ☐ C. 
- ☐ D. 

8. Graph the polynomial function. Factor first if the expression is not in factored form.

$$f(x) = x^3 + 2x^2 - x - 2$$

- ☐ A. 
- ☐ B. 
- ☐ C. 
- ☐ D. 

**Student:** \_\_\_\_\_  
**Date:** \_\_\_\_\_  
**Time:** \_\_\_\_\_

**Instructor:** Fred Khoury  
**Course:** Math 2312-1000 Precalculus (Fall - 2015)  
**Book:** Lial: College Algebra and Trigonometry, 4e

**Assignment:** Quiz Sec 1.2

9. Use the boundedness theorem to determine whether the polynomial function satisfies the given condition.

The polynomial  $f(x) = x^4 - x^3 + 2x^2 - 4x - 10$  has no real zero less than  $-1$ .

- ☐ A. Yes, the boundedness theorem shows that the polynomial has no real zero less than  $-1$ .  
☐ B. No, the boundedness theorem does not show that the polynomial has no real zero less than  $-1$ .