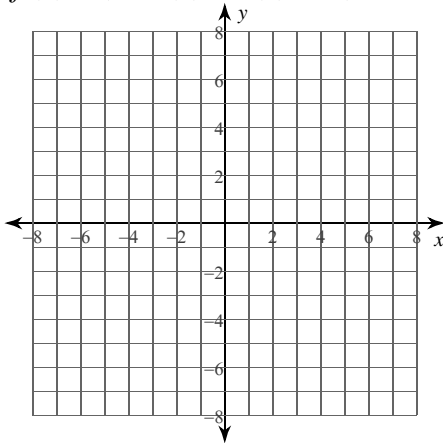


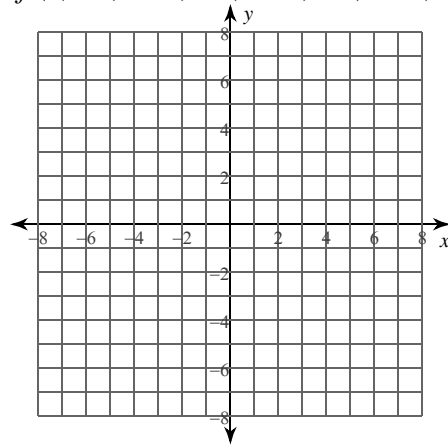
TEST 3.1-3.4 Review #2 (Sections 3.1-3.2)

1) and 2): Make a sketch of the graph of each polynomial function. Label x and y intercepts.

1)  $f(x) = (x + 1)(x - 4)(x + 4)$



2)  $f(x) = (x + 4)^2 \cdot (x - 2)^3 \cdot (x - 5)^4$



3) For the function  $f(x) = 3x^4 - 7x^3 - 2x + 5$

a) Find  $f(-3)$ .

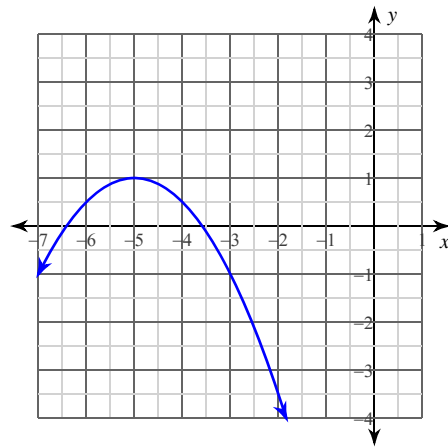
b) Find the remainder when you divide  $f(x)$  by  $x - 3$ .

4) Given that  $x = 1$  is a root of the equation  $2x^3 + 11x^2 - 7x - 6 = 0$ , find the remaining roots.

**Use the information provided to write the vertex form of each parabola.**

5) Vertex:  $(-9, -7)$  through:  $(-10, -5)$

6)



**7) and 8): Write a polynomial function in standard form having the smallest degree, integer coefficients, and the given zeros.**

7) 3 (multiplicity 2) and  $-5$

8)  $-\frac{1}{4}$ , 3,  $\frac{2}{5}$

**State the possible rational zeros for  $f(x)$ .**

9)  $f(x) = 3x^3 - 7x^2 - 10x + 12$

10)  $f(x) = 2x^4 + 9x^3 + 8x^2 - 9x - 10$

## Answers to TEST 3.1-3.4 Review #2 (Sections 3.1-3.2)

1) See solutions

3)  $f(-3) = 443$

5)  $f(x) = 2(x + 9)^2 - 7$

7)  $f(x) = x^3 - x^2 - 21x + 45$

9)  $\pm 1, \pm 2, \pm 3, \pm 4, \pm 6, \pm 12, \pm \frac{1}{3}, \pm \frac{2}{3}, \pm \frac{4}{3}$