

Factor completely. Sketch a graph including all intercepts.

1. $f(x) = 3x^2 - 11x - 4$

2. $f(x) = -2x^2 + 5x - 3$

3. $f(x) = x^3 + 5x^2 - 4x - 20$

4. $f(x) = 4x^3 + 16x^2 - x - 4$

5. $f(x) = x^3 - 12x^2 + 36x$

6. $f(x) = 6x^4 - 33x^3 - 18x^2$

7. $f(x) = x^3 - x^2 - 10x - 8$ $x + 2$ is a factor

8. $f(x) = -x^3 + 2x^2 + 11x - 12$ $x = -2$ is a zero.