

1. Factor the polynomial below completely, knowing that $x - 5$ is a factor.
To make the problem easier, all zeros are between -5 and 5.

$$f(x) = 10x^4 - 69x^3 + x^2 + 510x - 200$$

2. Factor the polynomial below completely. *To make the problem easier, all zeros are between -5 and 5.*

$$f(x) = 8x^3 - 38x^2 + 15x + 36$$

3. Factor the polynomial below completely, knowing that $x - 5$ is a factor.
To make the problem easier, all zeros are between -5 and 5.

$$f(x) = 25x^4 - 50x^3 - 379x^2 + 8x + 60$$

4. Perform the division below. Write the resulting quotient in the form $ax^2 + bx + c$ and remainder as r .

$$\frac{10x^3 + 35x^2 - 49}{x + 3}$$

5. Perform the division below. Write the resulting quotient in the form $ax^2 + bx + c$ and remainder as r .

$$\frac{6x^3 - 24x^2 + 30x - 8}{x - 2}$$

6. Perform the division below. Write the resulting quotient in the form $ax^2 + bx + c$ and remainder as r .

$$\frac{15x^3 - 35x^2 + 17}{x - 2}$$

7. What are the *possible Rational* roots of the polynomial below?

$$f(x) = 7x^3 + 7x^2 + 4x + 6$$

8. What are the *possible Rational* roots of the polynomial below?

$$f(x) = 2x^4 + 3x^3 + 3x^2 + 7x + 4$$

9. Perform the division below. Write the resulting quotient in the form $ax^2 + bx + c$ and remainder as r .

$$\frac{12x^3 - 81x^2 + 114x - 43}{x - 5}$$

10. Factor the polynomial below completely. *To make the problem easier, all zeros are between -5 and 5.*

$$f(x) = 9x^3 - 33x^2 + 10x + 24$$