

Name _____

Due Date _____

Block _____

Rational Functions #1

Use long division to divide. Then write the dividend (thing being divided) as a product of the divisor (thing being divided by) and the quotient (answer to the long division).

1.

$$x+3 \overline{)x^2+4x+3}$$

2.

$$x-3 \overline{)x^2+5x-6}$$

3.

$$x-5 \overline{)x^2-6x-1}$$

4.

$$\frac{x^2-1}{x+1}$$

5.

$$x^2+2x+1 \overline{)x^3-4x^2+5x-1}$$

6.

$$x-5 \overline{)x^4+5x^3-4x^2+3x+1}$$

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7.

$$(x^3 + 1) \div (x + 1)$$

8.

$$\frac{x^3 + 4x^2 - 5x - 3}{x - 5}$$

Use long division to divide. Then factor the dividend completely:

9.

$$x - 6 \overline{) x^3 - 4x^2 - 27x + 90}$$

10.

$$x + 2 \overline{) x^3 + 6x^2 + 12x + 8}$$