

Name: _____

Date: _____

Divide:

Synthetic **Long**

1. $(x^4 + 2x^3 - 5x^2 + 3x - 1) \div (x - 1)$

$$x^3 + 3x^2 - 2x + 1$$

2. $(3x^5 - 2x^4 + x^2 - 4x + 12) \div (x - 2)$

$$3x^4 + 4x^3 + 8x^2 + 17x + 30 + \frac{72}{x-2}$$

3. $(x^4 - 13x^2 - 36) \div (x^2 + x - 6)$
 $\begin{matrix} \uparrow & \uparrow \\ 0x^3 & 0x \end{matrix}$

$$x^2 - x - 6 + \frac{-72}{x^2 + x - 6}$$

4. $(5x^4 + 8x - 9) \div (x^2 - 4)$
 $\begin{matrix} \uparrow & \downarrow & \uparrow \\ 0x^3 & 0x^2 & 0x \end{matrix}$

$$5x^2 + 20 + \frac{8x + 71}{x^2 - 4}$$

5. $(2x^3 - 7x^2 - 17x - 3) \div (2x + 3)$

$$x^2 - 5x - 1$$

6. $(x^3 + 5x^2 - 2) \div (x + 4)$
 $\begin{matrix} \uparrow \\ 0x \end{matrix}$

$$x^2 + x - 4 + \frac{14}{x+4}$$

7. $(-3x^3 + 4x - 1) \div (x - 1)$

$$-3x^2 - 3x + 1$$

8. $(-x^3 + 2x^2 - 2x + 3) \div (x^2 - 1)$

$$-x + 2 + \frac{-3x + 5}{x^2 - 1}$$