

POLYNOMIAL DIVISION

To **D**IVIDE A POLYNOMIAL BY A BINOMIAL THINK "**D**"

Divide first terms:

$$\frac{x^2}{x} = x$$

Distribute the result across the **D**ivisor and line up the terms under the **D**ividend:

$$x(x - 2) = x^2 - 2x$$

Draw the line, change the signs, and combine:

$$-(x^2 - 2x) = -x^2 + 2x$$

Drop **D**own the next term and **D**o it again!

Divide first terms.

Distribute the result.

Draw the line, change the signs, and combine...If there is a remainder, **D**rop it over the **D**ivisor.

Done!

EXAMPLE

Step 1:

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

Step 2:

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

$$x^2 - 2x$$

Step 3:

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

$$-x^2 + 2x$$

$$-3x$$

Step 4:

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

$$-x^2 + 2x$$

$$-3x + 6$$

Step 5:

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

$$-x^2 + 2x$$

$$-3x + 6$$

$$+3x - 6$$

$$0$$