SM 3H

DATE: SECTION:

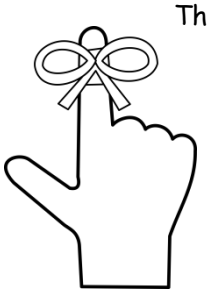
OBJECTIVE:

Review:

1.) $5x^3(x-4)$ 2.) $(x-2)-(x+7)$ 3.) $x \cdot \square = 7x^2$

4.) $2x \cdot \square = 20x^3$ 5.) $3x \cdot \square = -3x^2$ 6.) $2997 \div 5$ (no calculator)

Steps for Long Division with Polynomials



Things to remember when dividing polynomials:

a. Just like long division with numbers

b. Must be in _____ form

c. _____ __ _____ in place of any missing term

d. _____ subtraction

e. Remainders

Examples: Divide using long division. Write remainders as a fraction in polynomial form.

7.) $\frac{x^3+6x^2-x-3}{x+5}$

8.) $\frac{3x^3-5x^2+10x-3}{3x+1}$

9.) $(2x^3-9x^2+15)\div(2x-5)$

10.) $(1+2x+3x^3+4x^4)\div(x^2+x+2)$

****Long division works:

****Synthetic division works:

Steps for Synthetic Division with Polynomials

Examples: Divide using synthetic division. Write remainders as a fraction in polynomial form.

11.) $\frac{4x^2-2x+3}{x-1}$

12.) $\frac{x^3-1}{x-1}$

13.) $\frac{2x^3+3x^2-x-3}{x+2}$

14.) $\frac{x^4+5x^3-x^2-19x+8}{x+3}$

15.) $\frac{2x^4+x-30}{x-2}$

16.) $\frac{3x^3-5x^2-3x-2}{3x-1}$

Factor Theorem:

Review of distance formula and midpoint formula

Distance formula:

Example: Find the distance between the points. Leave your answers in simplest radical form.

$(4,-5)$ and $(-8,-1)$

Midpoint formula:

Example: Find the midpoint of the line segment with the given endpoints. Leave you answers as simplified fractions. $(6,-2)$ and $(5,8)$