1. $\frac{5x^4 - 15x^2}{5x^2}$ ← monomial

$\frac{\cancel{5}x^4}{\cancel{5}x^2} - \frac{\cancel{15}^{3}x^{\cancel{2}}}{\cancel{5}x^{\cancel{2}}}$ (3, 1)

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

$\frac{x \cdot x \cdot \cancel{x} \cdot \cancel{x}}{\cancel{x} \cdot \cancel{x}} - 3$

$x^2 - 3$

ex: $\frac{x^{50}}{x^3}$ $\quad 50-3 = 47$

$= \frac{x^{47}}{1}$

$= x^{47}$

ex: $\frac{x^{10}}{x^{17}}$ $\quad 17-10 = 7$

$= \frac{1}{x^7}$

NOTE: IF YOU HAVE X TO A POWER OVER X TO POWER, SUBTRACT SMALLER EXP. FROM LARGER AND YOU HAVE X TO THAT POWER WHERE THE LARGER ONE WAS

FORMULA: $\frac{x^m}{x^n} = x^{m-n}$

2. $\frac{2x^3y^4 - 3x^2y^3 - 5xy}{4x^2y^2}$

$\frac{\cancel{2}^{1}x^3y^4}{\cancel{4}^{2}x^2y^2} - \frac{3x^2y^3}{4x^2y^2} - \frac{5x^1y^1}{4x^2y^2}$

$\frac{1x^1y^2}{2} - \frac{3y^1}{4} - \frac{5}{4x^1y^1}$

$\frac{xy^2}{2} - \frac{3y}{4} - \frac{5}{4xy}$

ex: $11 \overline{)3056}$ $\quad 2$

-22

856

3. $x-2 \overline{)x^2-10x+16}$

$\ominus x^2 \oplus 2x$

$-8x+16$

$\oplus -8x \ominus 16$

0

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

$-8(x-2) = -8x+16$

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

$\ominus x^3 \oplus 3x^2$

$-4x^2-11x+3$

$\oplus -4x^2 \ominus 12x$

$x+3$

$\ominus x \ominus 3$

0

$x^2(x+3) = x^3+3x^2$

$-4x(x+3) = -4x^2-12x$

$1(x+3) = x+3$