

Name: _____

Algebra II
5.2 Dividing Polynomials

Goals:

- I can divide polynomials using long division.

Long Division (Old School Examples):

Question: $\frac{1472}{3}$

Solution:

Divide a Polynomial by a Monomial

Work	Explanation
1. Simplify $\frac{6x^4y^3+12x^3y^2-18x^2y}{3xy}$ Answer:	<ul style="list-style-type: none">• Split up fractions• Divide each section<ul style="list-style-type: none">◦ Quotient of powers• Zero Power Property
2. Simplify $\frac{20c^4d^2f-16cdf^2+4cdf}{4cdf}$ Answer: Answer: $5c^3d - 4f + 1$	

HW:

1. $(4xy^2 - 2xy + 2x^2y)(xy)^{-1}$

2. $\frac{9n^3p^3-18n^2p^2+21n^2p^3}{3n^2p^2}$

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Using the Division Algorithm

3. Use long division to find $(x^2 + 3x - 40) \div (x - 5)$

Answer:

4. Use long division to find each quotient. $(x^2 + 7x - 30) \div (x - 3)$

Answer: $x + 10$

HW:

3. $(x^2 - 6x - 20) \div (x + 2)$

4. $(3z^4 - 6z^3 - 9z^2 + 3z - 6) \div (z + 3)$