

Review – Dividing Polynomials II

Simplify each of the following:

$$1) \frac{(7x)(4x-8)}{(-2x)} = \frac{28x^2 - 56x}{(-2x)}$$

$$= \frac{28x^2}{-2x} - \frac{56x}{-2x}$$

$$= -14x + 28$$

You don't have to show this line. //

$$2) \frac{(30x^3 - 40x^2)}{(2x)(-5x)} = \frac{30x^3 - 40x^2}{-10x^2}$$

$$= \frac{30x^3}{-10x^2} - \frac{40x^2}{-10x^2}$$

$$= -3x + 4$$

$$3) \frac{(10x)(6x^2 - 8x - 4)}{(2)(5x)} = \frac{60x^3 - 80x^2 - 40x}{10x}$$

$$= \frac{60x^3}{10x} - \frac{80x^2}{10x} - \frac{40x}{10x}$$

$$= 6x^2 - 8x - 4$$

$$4) \frac{(8x^2)(-7x^2 + 2x - 1)(9x)}{(3x^2)(4x)} = \frac{(-56x^4 + 16x^3 - 8x^2)(9x)}{12x^3}$$

$$= \frac{-504x^5 + 144x^4 - 72x^3}{12x^3}$$

$$= \frac{-504x^5}{12x^3} + \frac{144x^4}{12x^3} - \frac{72x^3}{12x^3}$$

$$= -42x^2 + 12x - 6$$

$$\begin{array}{r} 5 \\ 56 \\ \times 9 \\ \hline 504 \end{array} \quad \begin{array}{r} 5 \\ 16 \\ \times 9 \\ \hline 144 \end{array}$$

$$5) \frac{(24x^5y^7z^2)(-8x^4z^4)}{(-6x^3y^4)(4x^2y^2z^2)}$$

$$= \frac{-192x^9y^7z^6}{-24x^5y^6z^4}$$

$$= 8x^4yz^2$$

$$\begin{array}{r} 3 \\ 24 \\ \times 8 \\ \hline 192 \end{array}$$

$$6) \frac{(7x^4z^3)(4y^8z^2)(6x^4z^5)}{(9x^2y^4)(3x^2z^{12})} = \frac{(28x^8y^8z^5)(6x^4z^5)}{27x^4y^4z^{12}}$$

$$= \frac{168x^8y^8z^{10}}{27x^4y^4z^{12}}$$

$$= \frac{56x^4y^4z^{-2}}{9}$$

$$\begin{array}{r} 4 \\ 28 \\ \times 6 \\ \hline 168 \end{array}$$

We didn't cover negative exponents. That's a grade 10 outcome. For now, we can leave like this. //