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Lesson 1.10-Objective- SWBAT divide polynomials by a monomial.

Kickoff- Simplify each of the following

1) $\dfrac{20x-10x^4}{10x}$

$2 - x^3$ ✓

2) $(k-3)(k^2-4k+5)$

	k	3
k	k^3	$-4k^2$	$+5k$
-3	$-3k^2$	$+12k$	-15

$k^3 - 7k^2 + 17k - 15$ ✓

3) $\dfrac{9a^2b - 6ab + 90a}{3a^2b}$

$\dfrac{9a^2b}{3a^2b} - \dfrac{6ab}{3a^2b} + \dfrac{90a}{3a^2b}$ ✓

$3 - \dfrac{2}{a} + \dfrac{30}{ab}$

4) $\dfrac{25x^2y - 40xy^2 + 35x^4y^3}{5xy}$

$\dfrac{25x^2y}{5xy} \;\; \dfrac{-40xy^2}{5xy} \;\; \dfrac{-35x^4y^3}{5xy}$

$5x - 8y + 7x^3y^2$

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Rule- When dividing polynomial functions, subtract your exponents!!!

Steps: 1) Re-write as separate fractions
2) Divide Coefficients
3) Subtract Exponents of variables!
4) Make sure all exponents are POSITIVE

if you get a negative, put in the denominator!

Practice:

1) $\dfrac{4a-8}{4}$

$\dfrac{4a}{4} \cdot \dfrac{8}{4}$

$1a - 2$

2) $\dfrac{6w^2 + 4w}{2w}$

$\dfrac{6w^2}{2w} + \dfrac{4w}{2w}$

$3w + 2$

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3) $\dfrac{3t^3 - 9t^2 + 12t}{3t}$

$\dfrac{3t^3}{3t} - \dfrac{9t^2}{3t} + \dfrac{12t}{3t}$

$1t^2 - 3T + 4$

4) $\dfrac{24x^4y^2 + 18x^3y^3 - 6x^2y}{6x^2y}$

$4x^2y + 3xy^2 - 1$

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5) $\dfrac{12y^3 - 9y^2 + 6y}{-3y}$

6) $\dfrac{8a^3b^2 - 12a^2b^3}{4a^2b}$

7) $\dfrac{45x^5 + 15x^4 - 20x^3 - 30x^2}{-5x^2}$

8) $(12x^5 + 9x^2 - 6x) \div 3x^2$

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9) $\dfrac{9x^4 - 27x^5}{3x^3}$

10) $\dfrac{2ax^3 + 4bx}{2x}$

11) $\dfrac{6ab^4c - 3a^3bc^2 + 2a^3bc - 4ab^3c}{2abc}$

12) $\dfrac{xy^3z - 4y^2z + 6xyz - y^3z}{yz}$

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13) $\dfrac{2a^3b^2 - 10ab^3c}{2ab^2}$

14) $\dfrac{6p^2qr^2 - 2pq^2r^3 - 3pq^4r^2}{12pqr^2}$