Name: Key Date: _____

Day 10- Dividing Monomials

Do Now:

When dividing terms with the same base, we keep the base and subtract the exponents.

Example:

$$\frac{x^{10}}{x^6}$$

When we divide monomials, we want to divide the coefficients as normal. Then, apply the quotient rule to each term.

Simplify the expressions below. Write all final answers with positive exponents.

1. $\frac{25x^0y}{5x^8}$ $0-8=-8$

$5x^{-8}y$ $\frac{5y}{x^8}$

2. $\frac{45x^2y^7}{9xy^4}$ $2-1=1$ $7-4=3$

$5xy^3$

3. $\frac{(3x^3y)(2x^5y)}{6xy^{-2}}$

$\frac{6x^8y^2}{6xy^{-2}}$ $x^7y^0=x^7$

4. $\frac{x^4y^{10}}{x^{-2}y^{10}}$ $4+2=6$

$x^6y^0=x^6$

5. $\frac{16x^3y^2z^{10}}{16x^2y^7z^4}$ $2-7=-5$ $10-4=6$

$xy^{-5}z^6 = \frac{xz^6}{y^5}$

6. $\frac{33s^5t^4u^8}{11st^3u^8}$

$3s^4tu^0 = 3s^4t$

7. $\frac{10xy^2}{-5xy^2}$

$-2x^0y^0 = -2$

8. $\frac{-12m^2n^{12}}{n^3} = -12m^2n^9$

9. $\frac{pq^9r^{13}}{q^4r^6}$

pq^5r^7

10. $\frac{60c^4d^6}{15c^2d^3}$

$4c^2d^3$

11. $\frac{16a^{20}b^4}{24a^{14}}$

$\frac{4a^6b^4}{6}$

12. $\frac{56xy^7z^4}{4}$

$14xy^7z^4$

13. $\frac{t^3}{-t} = -t^2$

14. $\frac{35v^8w^6}{7v^3}$

$5v^5w^6$

Extra Practice...

Simplify.

1. $\frac{4n+8}{2}$ $2n+4$

2. $\frac{--9g+12}{-3}$ $3g-4$

3. $\frac{16x^2-12x+8}{4}$ $4x^2-3x+2$

4. $\frac{27w^2+18w-36}{-9}$ $-3w^2+18w-36$

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

6. $\frac{25s^3+12s}{5s}$ $5s^2+\frac{12}{5}$

7. $\frac{3m-n}{2n}$ $\frac{3m}{2n}-\frac{1}{2}$

8. $\frac{3a-6b}{3ab}$ $\frac{1}{b}-\frac{2}{a}$

9. $\frac{8h^5-32h^4+16h^3}{-8h^4}$ $-n+4-2n^{-1}$ or $\frac{-n+4-2}{n}$

10. $\frac{3x^2y+6xy-9x^2y^2}{3xy}$ $xy^0+2x^0y^0-3xy$

$x+2-3xy$