Warm-up

2, 8, 5

(5) $\frac{14x^2y^4}{18x^4y^3} = \frac{7}{9}x^{2-4}y^{4-3}$

$\frac{7}{9}x^{-2}y$

$\frac{7xxyyyyy}{9xxxxyyy} = \frac{7y}{9x^2}$

(8) $\frac{20x^3y^4z^2}{60x^5yz^3} = \frac{1}{3}x^{3-5}y^{4-1}z^{2-3} = \frac{1}{3}x^{-2}y^3z^{-1}$

$\frac{1\cdot x\cdot x\cdot x\cdot y\cdot y\cdot y\cdot z\cdot z}{3\cdot x\cdot x\cdot x\cdot x\cdot x\cdot z\cdot z\cdot z} = \frac{1\cdot y^3}{3\cdot x^2z} = \frac{y^3}{3x^2z}$

Warm-up

Wednesday 8/21

Simplify

1. $\frac{x^5}{x^6}$ 2. $(k^2)(k^6)$ 3. 12^0 4. 5^{-1} 5. $\frac{x^{12}}{x^5}$ 6. $\left(\frac{b^4y^3k^8}{z^{23}a^6}\right)^0$

x^{-1} OR $\frac{1}{x}$

k^{2+6}

k^8

1

x^{12-5}

x^7

1

Negative Exponents:

$$a^{-n} = \frac{1}{a^n}$$

$$\frac{x^{-2}}{1} = \frac{1}{x^2}$$

$$\frac{y^{-n}}{4} = \frac{1}{4y^n}$$

$$\frac{1}{z^{-6}} = 1 \cdot z^6 = z^6$$

$$\frac{b^{-27}}{a^{-1}} = \frac{a}{b^{27}}$$

$\left(\frac{4}{3}\right)^{-4} =$

$\left(\frac{3}{4}\right)^{4} = \boxed{\frac{3^4}{4^4}}$

$\left(\frac{-15u^{-1}}{5u^3}\right) =$

$\frac{-15}{5u^3u} = \frac{-3}{u^{3+1}} = \boxed{\frac{-3}{u^4}}$

$\left(\frac{m^{-4}n^{-5}}{m^4n^3}\right) = \frac{1}{m^4m^4n^5n^3} = \frac{1}{m^{4+4}n^{5+3}} = \boxed{\frac{1}{m^8n^8}}$

#9 $\dfrac{42xy^2z^3}{49x^3y^2z} = \dfrac{6}{7}x^{1-3}y^{2-2}z^{3-1}$

$= \dfrac{6}{7}x^{-2}y^0z^2$

$= \dfrac{6 \cdot 1 \cdot z^2}{7x^2}$

$\boxed{= \dfrac{6z^2}{7x^2}}$