January 6th 2015

Due Today: HW 6.1
Due Next Class: HW 6.2

Unit 6: Exponents and Radicals

Lesson: 6.2: More Exponents

Get Ready: Look at the work at your table. With your group members, spot the mistakes in each problem. Problems may have more than one mistake.

1) $-2x^{-2} \cdot -3x^{-3} \cdot -x^{4}$

$-6 \cdot x^{-2-3+4}$

$-6x^{-1}$

$\frac{-6}{x}$

$\frac{1}{6x}$

2) $(-2n^{0}v^{4})^{2}$

$-4nv^{8}$

$+4v^{8}$

1

3) $\frac{-2x^{-1}}{x^{-4}y^{2}}$

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

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

4) $\left(\frac{z^{2}}{-2x^{-4}z^{-3} \cdot -x^{2}z^{2} \cdot xy^{4}}\right)^{3}$

$\frac{z^{6}}{-2x^{-4}z^{-3} \cdot -x^{2}z^{2} \cdot xy^{4}}$

$\frac{z^{6}}{2x^{-1}z^{-1}y^{4}}$

$\frac{z^{5}}{2x^{-1}y^{4}}$

5) $\left(\frac{-x^{-2}y^{3}z^{4}}{-xy^{-3}z^{-4} \cdot y^{3}}\right)^{3}$

$\frac{-x^{6}y^{-9}z^{-12}}{-x^{-3}y^{9}z^{12}y^{-9}}$

$\frac{-x^{6}y^{-9}z^{-12}}{x^{-3}y^{9}z^{12}}$

$-x^{9}y^{-18}z^{-24}$

$\frac{-x^{9}}{y^{18}z^{24}}$

$3 - -4$

$7x^{7}$

Homework Answers

1) $20a^6$

2) $2b^3$

3) $\frac{5n}{6}$

4) $32x^{20}$

5) $\frac{4}{m^3}$

6) $25x^5$

7) $\frac{6x}{y^3}$

8) $\frac{1}{u^6}$

9) $\frac{4y^7x}{3}$

10) $\frac{8y^3}{xz^2}$

11) $\frac{64}{r^6}$

12) $\frac{1}{p}$

13) $\frac{16m^{11}}{n^{14}}$

14) $4m^3n^8$

15) $\frac{1}{y^3}$

16) $\frac{y^{16}}{x^{16}}$

(13) $m^3n^2 \cdot (2m^2n^{-4})^4$

$m^3n^2 \cdot 16m^8n^{-16}$

$16m^{11}n^{-14}$

$\frac{16m^{11}}{n^{14}}$

(15) $\dfrac{2xy^{-3}\cdot(xy)^2}{2x^3y^2}$

$\dfrac{2xy^{-3}x^2y^2}{2x^3y^2}$

$\dfrac{x^3y^{-1}}{x^3y^2} = \dfrac{y^{-1}}{y^2} = \dfrac{1}{y\cdot y^2} = \boxed{\dfrac{1}{y^3}}$

(10) $2xy^3 \cdot 4x^{-1}z^{-3}$

$8x^{-1}y^3z^{-2}$

$\frac{8y^3}{xz^2}$

$$(3x^2)^{-3}$$

$$\frac{1}{3^3}x^{-6} = \frac{1}{27x^6} \qquad \frac{1}{(3x^2)^3} = \frac{1}{27x^6}$$

Which of these still need to be simplified?

1) $3a^2 \cdot a^5$

2) $\frac{3x}{9} = \frac{x}{3}$

3) $\frac{10x^2}{y^4}$

4) $(2x^4)^2$

$$\frac{x^3 y^{-1} z^2}{(x^3)^2 \cdot 2x^3 y^2 z^4}$$

$$\frac{x^3 y^{-1} z^2}{x^6 \cdot 2 x^3 y^2 z^4} = \frac{x^3 y^{-1} z^2}{2 x^9 y^2 z^4}$$

$$x^{-6} \; y^{-3} \; z^{-2}$$

$$\frac{2}{}$$

$$= \frac{1}{2 x^6 y^3 z^2}$$

$-1-2$
$2-4$

$$\frac{m^{-2}n^{0} \cdot (2n^{0})^{2}}{2mn^{3}}$$

PMDZN

$$\frac{m^{-2}n^{0} \cdot 4n^{0}}{2mn^{3}}$$

$$\frac{4m^{-2}}{2mn^{3}}$$

$$\frac{2m^{-2}}{mn^{3}} \qquad -2-1=-3$$

$$\frac{2m^{-3}}{n^{3}}$$

$$\frac{2}{m^{3}n^{3}}$$

$$\left(\frac{2x^0y^{-2}\cdot 2x^{-3}y^4}{(y^3)^0}\right)^2$$

$$\left(2x^0y^{-2}\cdot 2x^{-3}y^4\right)$$

$$4x^0y^{-4}\cdot 4x^{-6}y^8$$

$$16x^{-6}y^4$$

$$\frac{16y^4}{x^6}$$

Recap

Homework:

Today in MATH

Next Class: