January 6th	Due Today:6.1 HW

Unit 6: Exponents and Radicals

Lesson 6.2: Challenge Practice with Exponents

Get Ready: Simplify:

$$2x^2 y \cdot \left(x^3 y^5\right)^2$$

$x^6 y^{10}$

$2x^8 y^{11}$

$$(1x^2y^3)^3$$

$$\downarrow$$

$$x^6y^9$$

$$x^2 \cdot x^2 \cdot x^2$$

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

$$\frac{16x^{12}}{2x^{3}} = \frac{xxx\,xxxxxxxxx}{xxx}$$
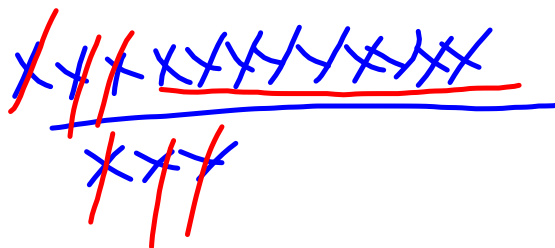
$$14x^{9}$$

6.1 HW –GRADE IN COLORED PENCIL

1) $4a^0 \cdot a^{-1}b^3$

$\dfrac{4b^3}{a}$

2) $(2x^3)^4$

$16x^{12}$

3) $\dfrac{4x^3y^2}{2xy^3}$

$\dfrac{2x^2}{y}$

4) $2ba^0 \cdot (2a^4b^{-4})^0$

$2b$

5) $\dfrac{2y^0 \cdot 3y^0}{3y^3}$

$\dfrac{2}{y^3}$

Z
P
M
D
N

6) $\dfrac{4a^{-1}b^2}{a^2b^2 \cdot 2a^{-3} \cdot 2a^3b^2}$

$\dfrac{1}{a^3b^2}$

$2 + 3y$

$\dfrac{4a^{-1}b^2}{4a^2b^4}$

$-1-2=-3$
$2-4=-2$

$a^{-3}b^{-3}$

$\boxed{\dfrac{1}{a^3b^2}}$

7) $\dfrac{(b^0)^3}{ba^{-1}}$

$\dfrac{a}{b}$

8) $\dfrac{(2yx^4)^3}{2x^{-3}y^2}$

$4x^{15}y$

9) $\dfrac{(y^{-4})^4 \cdot 2x^2y^4}{x^3y^{-4}}$

$\dfrac{2}{y^8x}$

10) $\left(\dfrac{m^3n^{-4}}{nm^2 \cdot m^4n^3}\right)^4$

$\dfrac{1}{n^{32}m^{12}}$

$\dfrac{m^3n^{-4}}{n^4m^6}$

$m^{-3}n^{-8} = \left(\dfrac{1}{m^3n^8}\right)^4$

$= \boxed{\dfrac{1}{m^{12}n^{32}}}$

11) $\dfrac{(m^2n^0p^2)^{-4}}{2m^2 \cdot n^0p^0}$

$\dfrac{1}{2m^{10}p^8}$

12) $\left(\dfrac{2x^{-2}y^{-2}z^{-1} \cdot zx^3y^2}{y^{-3}}\right)^2$

$4y^6x^2$

$\dfrac{a^2x^{-4}y^{-4}z^{-2} \cdot z^2x^6y^4}{y^{-6}}$

$\dfrac{4x^2}{y^{-6}} = \boxed{4x^2y^6}$

Each of these children have a favorite candy that they can't live without. Match up each child with their age and favorite candy. Their names are Aaron, Ashley, and Andrew. Their ages range from 3 to 5 years old. Their favorite candy is either Skittles, Hershey's Kisses, or Jolly Ranchers.

1. Ashley is allergic to chocolate.

2. Aaron does not like Jolly Ranchers.

3. Andrew is the oldest.

4. Ashley is younger than Andrew but older than Aaron.

5. Andrew likes Jolly Ranchers.

	Hershey's	Jolly	Skittles	Three	Four	Five
Aaron						
Ashley						
Andrew						
Three						
Four						
Five						

Challenge Practice Activities

A

B

C

D

Jan 4-2:49 PM
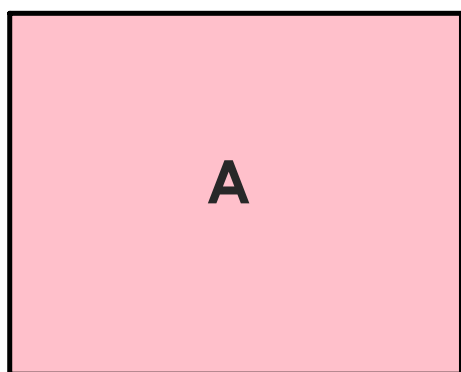
$$(2xy^{-3})^3 = (2 \cdot x \cdot y^{-3})^3$$

$$\frac{8}{xy^9} \qquad 8 \cdot x^3 \cdot y^{-9}$$

$$\boxed{\frac{8x^3}{y^9}}$$

$$4m^3n^2 \cdot 2m^0n^2$$

$$8 \cancel{16} \, m^3 n^4$$
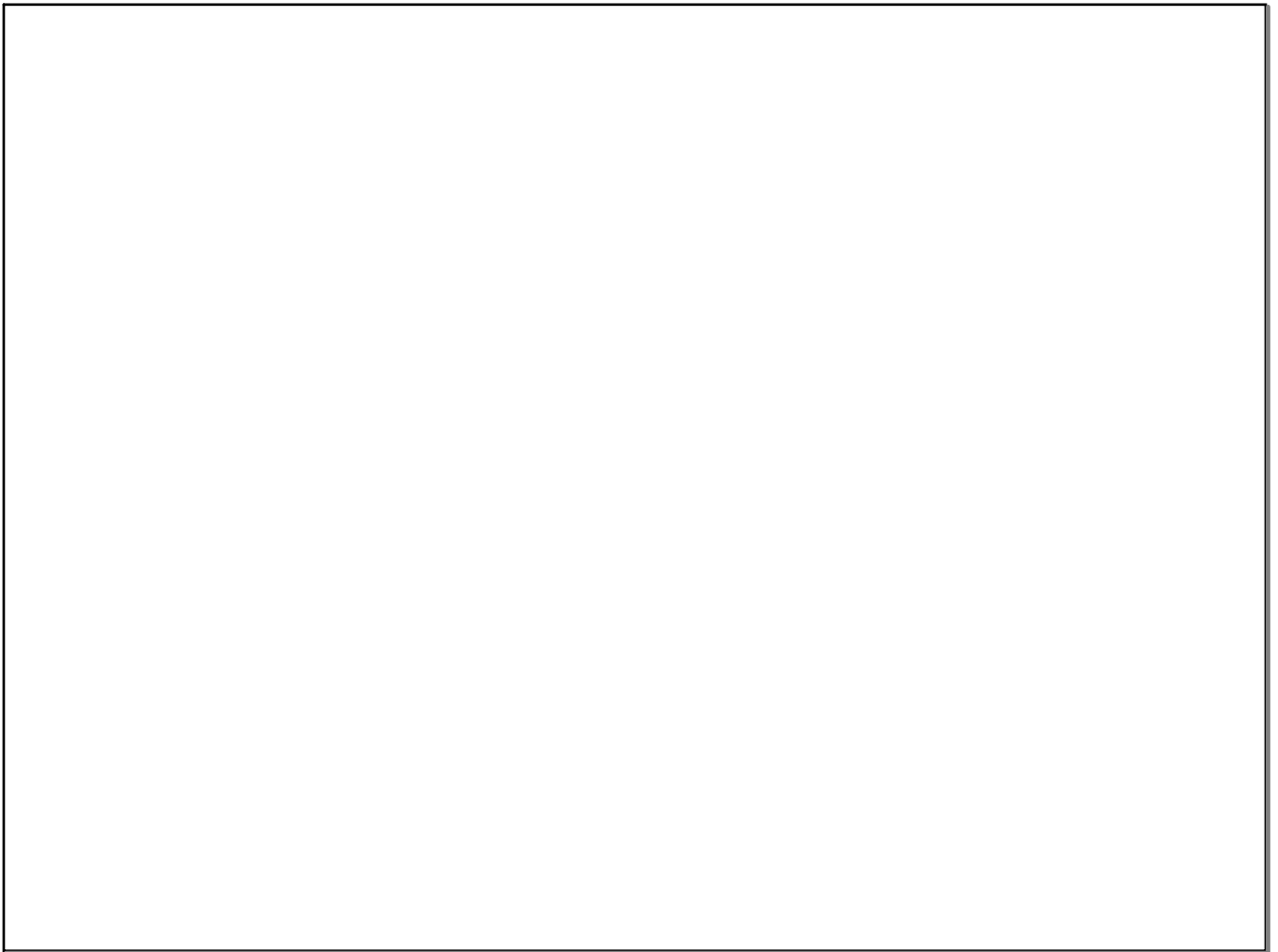
$$\frac{4y^4}{4x^4y^{-1}}$$

$$x^{-4} \downarrow x^4$$

⑤ $\left(2xy^{-3}\right)^3 = 8x^3 y^{-9}$

$$\dfrac{8x^3}{y^9}$$

$$\text{⑦} \quad \frac{4x^1y^2 \cdot 4x^4}{2x^3y^4} = \frac{16x^5y^2}{2x^3y^4}$$

$$= 8x^2y^{-2}$$

$$= \boxed{\frac{8x^2}{y^2}}$$

③ $\dfrac{2m^4n^6}{6n^1m^2}$

$\dfrac{1m^2n^5}{3}$

Unit 6: Exponents and Radicals

Lesson #	Name	Recap	HW
6.1	Review of basic Exponent Laws		HW 6.1 *unit 5 corrections
6.2	Challenge Practice		HW 6.2

Aug 8-7:55 PM

There are 3 people: Mr. Bob, Mr. Jim, and Mr. Smith. Each one of them has a different job. The jobs are a firefighter, a police officer, and a nurse. Each one of them has one day off: Monday, Thursday, or Sunday. Using the clues below, find out who does what job, and what day they have off.

1. Mr. Jim wishes he was a nurse because it pays more money than his current job.

2. Mr. Smith has a weekend day off.

3. The person who has Thursday off, is not a firefighter.

4. Mr. Bob is a firefighter.

$$\frac{\left(\bigcirc * \diamondsuit^{-2}\right) * \triangle^{4}}{\left(\square * \pentagon^{5}\right) * \left(\bigstar * \left(\triangle^{-1}\right)\right)^{2}}$$

5) $\dfrac{a^{4}b^{3}}{a^{-4} \cdot \left(2a^{-4}\right)^{4}}$

$\downarrow$
$8a^{-16}$

$\dfrac{a^{4}b^{3}}{a^{-4} \cdot 8a^{-16}} = \dfrac{a^{4}b^{3}}{8a^{-20}}$

$-4-16 = -20$

$4 - -20 = 24$

$\boxed{8a^{24}b^{3}}$

6) $\dfrac{x^{3} \cdot 2x^{2}y^{3} \cdot 2yx^{3}}{\left(2xy^{4}\right)^{2}}$

$= \dfrac{4x^{6}y^{3}}{4xy^{8}}$

$6-1 = 5$

$3-8 = -5$

$= x^{5}y^{-5}$

$= \boxed{\dfrac{x^{5}}{y^{-5}}}$