Homework Review – p. 498

(52)

Ursa min.	5
Polaris	2

10	100	1000
1	2	3
	2.512	2.512

2	3	4	5

$2.512 \cdot 2.512 \cdot 2.512$

2.512^3

(53)

31^3

(44) $\left(\frac{2m^5n}{4m^2}\right)^2 \cdot \left(\frac{mn^4}{5n}\right)^2$

$\frac{(2m^5n)^2}{(4m^2)^2} \cdot \frac{(mn^4)^2}{(5n)^2}$

$\frac{2^2(m^5)^2n^2}{4^2(m^2)^2} \cdot \frac{m^2(n^4)^2}{5^2n^2}$

$\frac{1}{4}\frac{\cancel{4}m^{\cancel{10}6}n^2}{\cancel{16}m^{\cancel{4}}} \cdot \frac{m^2n^{\cancel{8}6}}{25\cancel{n^2}} = \frac{m^6n^2}{4} \cdot \frac{m^2n^6}{25} = \frac{m^8n^8}{100}$

$x^5x^2 = x^7$

$(x^5)^2 = x^{10}$

(34) $\left(\frac{2x^3}{y}\right)^3 \cdot \frac{1}{6x^3}$

$\frac{(2x^3)^3}{y^3} \cdot \frac{1}{6x^3}$

$\frac{2^3(x^3)^3}{y^3} \cdot \frac{1}{6x^3}$

$\frac{8x^9}{y^3} \cdot \frac{1}{6x^3}$

$\frac{4 \cancel{8} x^{9-6}}{3 \cancel{6} x^3 y^3}$

$\frac{4x^6}{3y^3}$

(20) $\dfrac{9^5 \cdot 9^3}{9^4} = \dfrac{9^8}{9^4} = 9^4$

(42) $\left(\dfrac{2f^2g^3}{3fg}\right)^4 = \dfrac{2^4(f^2)^4(g^3)^4}{(3fg)^4} = \dfrac{16f^8g^{12}}{81f^4g^4} =$

$$\frac{16f^4g^8}{81}$$

(40) $\frac{1}{p^5} \cdot p^{?} = p^9$

$\frac{p^{?}}{p^5} = p^9$

14

$9 = ? - 5$

$+5 \quad +5$

$14 = ?$

(30) $\left(\frac{a^7}{2b}\right)^5 = \frac{(a^7)^5}{(2b)^5} = \frac{a^{35}}{32b^5}$

$$\frac{49x^6}{64y^{14}}\left(\frac{7x^3}{8y^7}\right)^2$$

$$\left(\frac{2x^5}{3y^9}\right)^5 \quad \frac{32x^{25}}{243y^{45}}$$

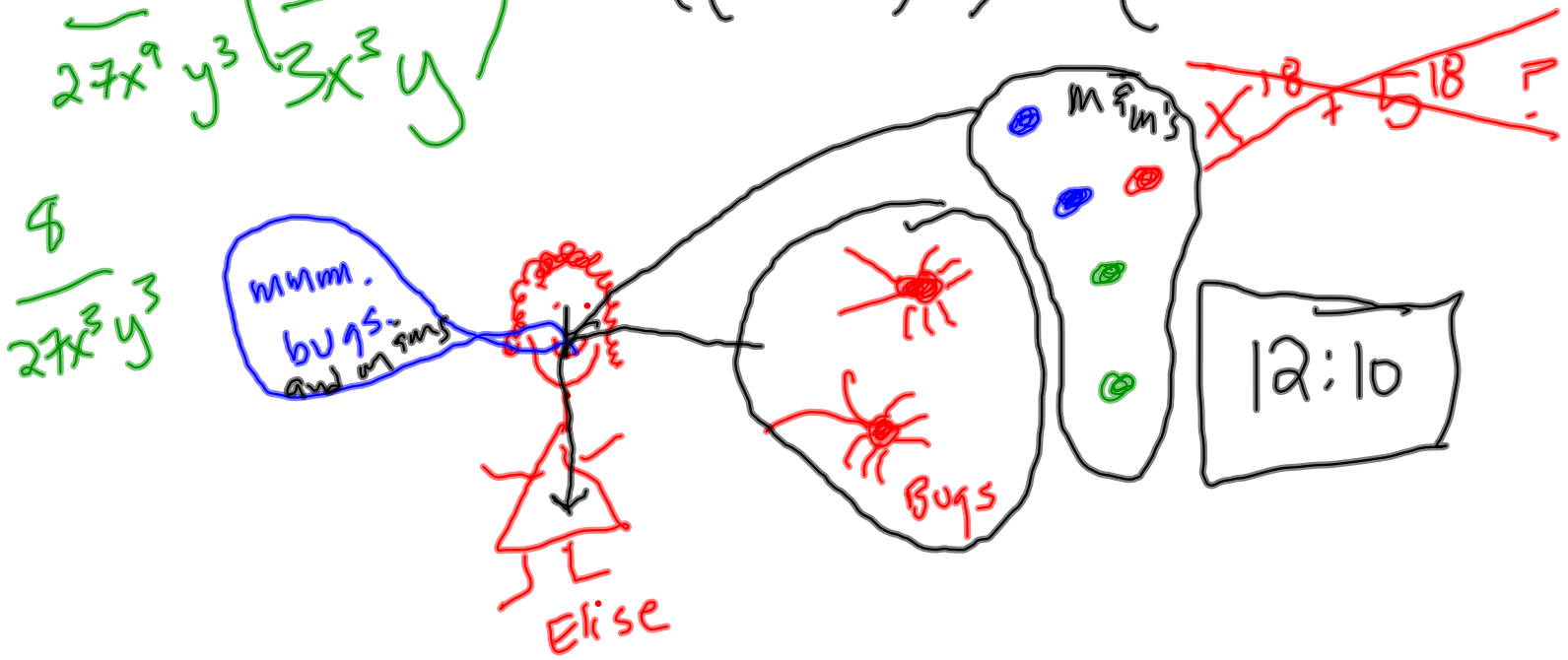
$$(-4x^7)^3 \quad -64x^{21}$$

Jerry is a jerk

$$\frac{8x^6}{27x^9y^3}\left(\frac{2x^2}{3x^3y}\right)^3$$

$$((x+5)^3)^6 \qquad (x+5)^{18}$$

$$\frac{8}{27x^3y^3}$$



$$\frac{8x^5y^2}{16x^3}$$

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

$$10x^4 \cdot (2x^5)^6$$

$$640x^{34}$$

$$\left(\frac{x^4}{5y^9}\right)^3$$

$$\frac{x^{12}}{125y^{27}}$$

$$\left(\frac{3x^6}{y^9}\right)^4$$

$$\frac{81x^{24}}{y^{36}}$$

$$4x^2 \cdot (3x^5)^2$$

$$36x^{12}$$

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

$$\frac{9x^2y^2}{16x^4} = \frac{9y^2}{16x^2}$$

Negative and Zero exponents

$$a^0 = 1 \quad (a \neq 0)$$

$5^0 = 1$, $11^0 = 1$, $4221.625^0 = 1$, $0^0 = \text{und.}$

$$a^{-n} = \frac{1}{a^n} \quad a \neq 0 \qquad 5^{-2} = \frac{1}{5^2}$$

$$4^{-5} = \frac{1}{4^5}$$

$$a^n = \frac{1}{a^{-n}} \quad a \neq 0 \qquad 2^3 = \frac{1}{2^{-3}}$$

$$a^x \cdot a^y = a^{x+y}$$

$$(a^x)^y = a^{x \cdot y}$$

$$(ab)^y = a^y b^y$$

$$\frac{a^x}{a^y} = a^{x-y}$$

$$\left(\frac{a}{b}\right)^x = \frac{a^x}{b^x}$$

$$a^0 = 1$$

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

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

Homework

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