

Unit 7A Review

Date _____ Period _____

Simplify. Your answer should contain only positive exponents.

1) $3x^{-2}$

$$\frac{3}{x^2}$$

2) $2x^{-3}y^4$

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

3) m^0n^{-1}

$$\frac{1}{n}$$

4) $4x^{-1}y^0$

$$\frac{4}{x}$$

5) $8x^3y^6 \cdot y^4 \cdot 2x^6y^7$

$$16x^9y^{17}$$

6) $5x^8y^5 \cdot 8x^6y^4$

$$40x^{14}y^9$$

7) $4x^{-5}y^{-6} \cdot 4x^{-6}y^6 \cdot 3yx^2$

$$\frac{48y}{x^9}$$

8) $3x^{-6}y^2 \cdot x^{-5}y^2 \cdot 2x^6y^2$

$$\frac{6y^6}{x^5}$$

9) $(3a^5b^7)^4$

$$81a^{20}b^{28}$$

10) $(3x^4y^5)^5$

$$243x^{20}y^{25}$$

11) $(3x^3y^6)^0$

$$1$$

12) $(x^3y^5)^{-2}$

$$\frac{1}{x^6y^{10}}$$

13) $(x^4y^5 \cdot yx^3)^5$

$$x^{35}y^{30}$$

14) $(mn^3)^4 \cdot m^2n^4$

$$m^6n^{16}$$

15) $(a^{-1}b^4 \cdot a^{-5}b^{-4})^{-4}$

$$a^{24}$$

16) $x^6y^5 \cdot (x^5y^6)^{-5}$

$$\frac{1}{x^{19}y^{25}}$$

$$17) \frac{3x^9 y^8}{9x^5 y^{10}}$$

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

$$18) \frac{6x^2 y^6}{9x^5 y^4}$$

$$\frac{2y^2}{3x^3}$$

$$19) \frac{6u^3 v^6}{8u^5 v^{-7}}$$

$$\frac{3v^{13}}{4u^2}$$

$$20) \frac{6x^{-8} y^4}{4x^6 y^5}$$

$$\frac{3}{2x^{14} y}$$

$$21) \frac{2x^4 y^3}{(x^4 y^2)^4}$$

$$\frac{2}{x^{12} y^5}$$

$$22) \left(\frac{x^2 y^2}{2x^2 y^4} \right)^3$$

$$\frac{1}{8y^6}$$

$$23) \frac{(2m^4 n^3)^2}{(mn)^4}$$

$$4m^4 n^2$$

$$24) \left(\frac{2x^{-4} y^{-4}}{x^3 y^{-3}} \right)^{-2}$$

$$\frac{x^{14} y^2}{4}$$

$$25) \frac{(2x^2 y^{-4})^{-3}}{(2x^4 y^3)^{-1} \cdot (xy^4)^{-2}}$$

$$\frac{y^{23}}{4}$$

$$26) \left(\frac{y^4}{(x^2)^{-3} \cdot (x^4 y^3)^2} \right)^3$$

$$\frac{1}{x^6 y^6}$$

$$27) -3ab^3 \cdot -2ab^4 \cdot 2ba^3$$

$$12a^5 b^8$$

$$28) (-4x^3 y^2)^{-4}$$

$$\frac{1}{256x^{12} y^8}$$

$$29) \frac{-8m^7 n^{10}}{-10n^4}$$

$$\frac{4m^7 n^6}{5}$$

$$30) (-2u^4 v^2)^3 \cdot 2u^3 v^4$$

$$-16u^{15} v^{10}$$

31) Find the area of a triangle whose base is $3x^4$ and height is $(2x^2 y^2)^3$.

$$12x^{10} y^6$$

32) Find the area of a rectangle with a length of $6x^2 y^3 z$ and a width of $2xy^{-5}$.

$$\frac{12x^3 z}{y^2}$$