

Algebra 2

Name \_\_\_\_\_ ID: 1

Quiz Review Exponents/Add/Subtract Polynomials

Simplify. Your answer should contain only positive exponents.

1)  $3v \cdot 4v^4$

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

3)  $x^3y^3 \cdot 3x^2y^2$

4)  $2u^4 \cdot 4vu^4$

5)  $(m^3n^{-4} \cdot m^3)^{-3}$   
 $(m^6n^{-4})^{-3}$   
 $m^{-18}n^{12} = \frac{n^{12}}{m^{18}}$

6)  $(2u^0)^{-4} \cdot (2u^{-2}v^3)^4$   
 $2^{-4} \cdot 2^4 u^{-8} v^{12}$   
 $2^0 = u^{-8} v^{12}$   
 $\frac{v^{12}}{u^8}$

7)  $(m^{-2}n^3)^2 \cdot 2n \cdot 2m^{-1}$

8)  $yx^2 \cdot (2x)^0$

9)  $\frac{3u^4v^{-3} \cdot 4u^{-3}v^{-4}}{3u^3v^{-4}}$   
 $= \frac{12u^1v^{-7}}{3u^3v^{-4}}$   
 $= \frac{4u^{-2}v^{-3}}{\frac{4}{u^2v^3}}$

10)  $\frac{3mn \cdot 3n^3}{3nm^2}$

$$11) \frac{2m^{-2}n^3}{4m^{-4}n^{-3} \cdot 4n^0} = \frac{2m^{-2}n^3}{16m^{-4}n^{-3}}$$

$$\frac{1m^2n^6}{8}$$

$$12) \frac{m^0n^3}{m^4 \cdot m^{-3}n^{-4} \cdot m^{-2}}$$

Simplify each expression.

$$13) (4b^2 + 2 - 3b^3) - (3b^4 + 4b^2 + 5b^2)$$

$$-3b^4 - 4b^2 - 5b^2$$

$$-3b^4 - 9b^2 + 2 - 7b^3$$

$$14) (4p^3 - 3 - 6p) + (4p - p^3 - 7)$$

$$15) (3 + 7x^4 + 7x^2) - (7x^2 - 5x^4 + 3)$$

$$16) (4x^2 + 2 + 3x) - (6x - 6 - 7x^2)$$

Find each product.

$$17) (4m - 1)(8m - 1)$$

$$18) (r - 8)(7r + 6)$$

$$19) (6r + 4)(8r^2 + 3r - 1)$$

$$20) (3p + 1)(5p^2 - 8p + 4)$$

Algebra 2

Name \_\_\_\_\_ ID: 1

Quiz Review Exponents/Add/Subtract Polynomials

Simplify. Your answer should contain only positive exponents.

1)  $3v \cdot 4v^4$   
 $12v^5$

2)  $3x^{-1}y^{-4} \cdot 4xy \cdot 4yx^2$   
 $\frac{48x^2}{y^2}$

3)  $x^3y^3 \cdot 3x^2y^2$   
 $3x^5y^5$

4)  $2u^4 \cdot 4vu^4$   
 $8u^8v$

5)  $(m^3n^{-4} \cdot m^3)^{-3}$   
 $\frac{n^{12}}{m^{18}}$

6)  $(2u^0)^{-4} \cdot (2u^{-2}v^3)^4$   
 $\frac{v^{12}}{u^8}$

7)  $(m^{-2}n^3)^2 \cdot 2n \cdot 2m^{-1}$   
 $\frac{4n^7}{m^5}$

8)  $yx^2 \cdot (2x)^0$   
 $yx^2$

9)  $\frac{3u^4v^{-3} \cdot 4u^{-3}v^{-4}}{3u^3v^{-4}}$   
 $\frac{4}{v^3u^2}$

10)  $\frac{3mn \cdot 3n^3}{3nm^2}$   
 $\frac{3n^3}{m}$

$$11) \frac{2m^{-2}n^3}{4m^{-4}n^{-3} \cdot 4n^0}$$

$$\frac{n^6 m^2}{8}$$

$$12) \frac{m^0 n^3}{m^4 \cdot m^{-3} n^{-4} \cdot m^{-2}}$$

$$n^7 m$$

**Simplify each expression.**

$$13) (4b^2 + 2 - 3b^3) - (3b^4 + 4b^3 + 5b^2)$$

$$-3b^4 - 7b^3 - b^2 + 2$$

$$14) (4p^3 - 3 - 6p) + (4p - p^3 - 7)$$

$$3p^3 - 2p - 10$$

$$15) (3 + 7x^4 + 7x^2) - (7x^2 - 5x^4 + 3)$$

$$12x^4$$

$$16) (4x^2 + 2 + 3x) - (6x - 6 - 7x^2)$$

$$11x^2 - 3x + 8$$

**Find each product.**

$$17) (4m - 1)(8m - 1)$$

$$32m^2 - 12m + 1$$

$$18) (r - 8)(7r + 6)$$

$$7r^2 - 50r - 48$$

$$19) (6r + 4)(8r^2 + 3r - 1)$$

$$48r^3 + 50r^2 + 6r - 4$$

$$20) (3p + 1)(5p^2 - 8p + 4)$$

$$15p^3 - 19p^2 + 4p + 4$$