

Dividing Monomials – In Class

Name _____

$$1. \frac{t^5 x^4}{tx^2}$$

$$2. \frac{-16a^5}{-2a^2}$$

$$3. \frac{20a^7 b^4}{10a^2 b^6}$$

$$4. \frac{x^3 y^{-2}}{x^{-5} y^4}$$

$$5. \frac{x^n}{x}$$

$$6. \frac{6a^{-4} b^2}{10ab^{-3}}$$

$$7. \frac{21x^3 y^{-4}}{9x^3 y^4}$$

$$8. \frac{14a^7 b^3}{7a^2 b}$$

$$9. \frac{x^{5n}}{x^{2n}}$$

$$10. \frac{c^{-4} d^2}{c^{-7} d}$$

$$11. \frac{g^{-2} h^{-4}}{g^5 h^3}$$

$$12. \frac{2^{-1} x^4}{x^{-2}}$$

$$13. \frac{3^3 a^{-4}}{3^{-2} a^{-7}}$$

$$14. \frac{(a^4 b^2)^3}{a^{-3} b}$$

$$15. \frac{(x^{-1} y^3)^{-2}}{x^{-3} y^2}$$

$$16. \frac{-6a^4}{3^{-1} a^{-5}}$$

Dividing Monomials – In Class

Name WY

1. $\frac{t^5 x^4}{tx^2}$

$t^4 x^2$

2. $\frac{-16a^5}{-2a^2}$

$8a^3$

3. $\frac{20a^7 b^4}{10a^2 b^6}$

$2a^5 b^{-2}$

$\frac{2a^5}{b^2}$

4. $\frac{x^3 y^{-2}}{x^{-5} y^4}$

$x^8 y^{-6} = \frac{x^8}{y^6}$

5. $\frac{x^n}{x}$

x^{n-1}

6. $\frac{6a^{-4} b^2}{10ab^{-3}}$

$\frac{3a^{-5} b^5}{5} = \frac{3b^5}{5a^5}$

7. $\frac{21x^5 y^{-4}}{9x^3 y^4}$

$\frac{7y^{-8}}{3} = \frac{7}{3y^8}$

8. $\frac{14a^7 b^3}{7a^2 b}$

$2a^5 b^2$

9. $\frac{x^{5n}}{x^{2n}}$

x^{3n}

10. $\frac{c^{-4} d^2}{c^{-7} d}$

$c^3 d$

11. $\frac{g^{-2} h^{-4}}{g^5 h^3}$

$g^{-7} h^{-7} = \frac{1}{g^7 h^7}$

12. $\frac{2^{-1} x^4}{x^{-2}}$

$2^{-1} x^6 = \frac{x^6}{2}$

13. $\frac{3^3 a^{-4}}{3^{-2} a^{-7}}$

$3^5 a^3 = 243a^3$

14. $\frac{(a^4 b^2)^3}{a^{-3} b}$

$\frac{a^{12} b^6}{a^{-3} b} = a^{15} b^5$

15. $\frac{(x^{-1} y^3)^{-2}}{x^{-3} y^2}$

$\frac{x^2 y^{-6}}{x^{-3} y^2} = x^5 y^{-8} = \frac{x^5}{y^8}$

16. $\frac{-6a^4}{3^{-1} a^{-5}}$

$\frac{-6a^9}{3^{-1}} = -6 \cdot 3 \cdot a^9 = -18a^9$

Advanced Algebra - Dividing Monomials
Assignment # 4

Name _____

Simplify. Write with positive exponents.

1. $x^4 \cdot x^{-6}$

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

3. $(a^{-1}b^4)^{-3}(2a^3b^8)$

4. $\frac{a^4}{a}$

5. $\frac{t^7}{t^{10}}$

6. $\frac{15t^2z}{3tz}$

7. $\frac{k^n}{k}$

8. $\frac{s^{n-2}}{s}$

9. $\frac{12x^5y^3}{4x^2y}$

10. $\frac{16rs^6}{8rs^4}$

11. $\frac{-10x^6}{5x^6}$

12. $\frac{9x^2y}{27x^3}$

13. $\frac{-25m^5n^2}{-5m^4n^3}$

14. $\frac{32st^4}{-16s^2t^3}$

15. $\frac{40m^3n^3}{8m^4n^3}$

$$16. \frac{-16p^6q^{10}}{-32p^7q^{11}}$$

$$17. \frac{23x^7y^4}{46x^5y}$$

$$18. \frac{a^4b^{-3}}{c^{-1}d^2}$$

$$19. \frac{3^{-1}y^4}{y^{-2}}$$

$$20. \frac{6n^{-2}}{8n^{-5}}$$

$$21. \frac{x^3y^{-4}}{x^{-2}y^4}$$

$$22. \frac{10c^{-6}d^4}{15c^{-2}d^{-2}}$$

$$23. \frac{4a^{-3}b^{-2}c^4}{2^{-1}ab^4c^{-2}}$$

$$24. \frac{12g^2r^{-3}s}{4gr^{-4}s^{-1}}$$

$$25. \frac{(a^3b^{-1})^{-2}}{a^{-3}b}$$

$$26. \frac{(3a^2)^{-1}}{4b^2c^{-3}}$$

$$27. \left(\frac{2a^{-2}}{b}\right)^{-2}$$

Review: Multiply

$$28. (x + 3)(x - 7)$$

$$29. (a^x - 4)(a^x - 6)$$

$$30. (x - 2)(2x^2 - 3x + 5)$$

Advanced Algebra - Dividing Monomials
Assignment # 4

Name Key

Simplify. Write with positive exponents.

1. $x^4 \cdot x^{-6}$
 $x^{-2} = \frac{1}{x^2}$

2. $(x^3y^{-2})^4$
 $x^{12}y^{-8} = \frac{x^{12}}{y^8}$

3. $(a^{-1}b^4)^{-3}(2a^3b^8)$
 $a^3b^{-12} \cdot 2a^3b^8$
 $2a^6b^{-4} = \frac{2a^6}{b^4}$

4. $\frac{a^4}{a}$
 a^3

5. $\frac{t^7}{t^{10}}$
 $\frac{1}{t^3}$

6. $\frac{15t^2z}{3tz}$
 $5t$

7. $\frac{k^n}{k}$
 k^{n-1}

8. $\frac{s^{n-2}}{s^1}$
 s^{n-3}

9. $\frac{12x^5y^3}{4x^2y}$
 $3x^3y^2$

10. $\frac{16rs^6}{8rs^4}$
 $2s^2$

11. $\frac{-10x^6}{5x^6}$
 -2

12. $\frac{9x^2y}{27x^3}$
 $\frac{1y}{3x}$

13. $\frac{-25m^5n^2}{-5m^4n^3}$
 $\frac{5m}{n}$

14. $\frac{32st^4}{-16s^2t^3}$
 $\frac{-2t}{s}$

15. $\frac{40m^3n^3}{8m^4n^3}$
 $\frac{5}{m}$

$$16. \frac{-16p^6q^{10}}{-32p^7q^{11}}$$

$$\frac{1}{2pq}$$

$$17. \frac{23x^7y^4}{46x^5y}$$

$$\frac{1x^2y^3}{2}$$

$$18. \frac{a^4b^{-3}}{c^{-1}d^2}$$

$$\frac{a^4c}{b^3d^2}$$

$$19. \frac{3^{-1}y^4}{y^{-2}}$$

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

$$20. \frac{6n^{-2}}{8n^{-5}}$$

$$\frac{3n^3}{4}$$

$$21. \frac{x^3y^4}{x^{-2}y^4}$$

$$\frac{x^5}{y^8}$$

$$22. \frac{10c^{-6}d^4}{15c^{-2}d^{-2}}$$

$$\frac{2d^6}{3c^4}$$

$$23. \frac{4a^{-3}b^{-2}c^4}{2^{-1}ab^4c^{-2}}$$

$$\frac{8c^6}{a^4b^6}$$

$$24. \frac{12g^2r^{-3}s}{4gr^4s^{-1}}$$

$$\frac{3grs^2}{1}$$

$$25. \frac{(a^3b^{-1})^{-2}}{a^{-3}b}$$

$$\frac{a^{-6}b^2}{a^{-3}b} = \frac{b}{a^3}$$

$$26. \frac{(3a^2)^{-1}}{4b^2c^{-3}}$$

$$\frac{3^{-1}a^{-2}}{4b^2c^{-3}} = \frac{c}{12a^2b^2}$$

$$27. \left(\frac{2a^{-2}}{b}\right)^{-2}$$

$$\frac{2^{-2}a^4}{b^{-2}} = \frac{a^4b^2}{4}$$

Review: Multiply

$$28. (x+3)(x-7)$$

$$x^2 - 4x - 21$$

$$29. (a^x - 4)(a^x - 6)$$

$$a^{2x} - 10a^x + 24$$

$$30. (x-2)(2x^2 - 3x + 5)$$

$$2x^3 - 3x^2 + 5x - 4x^2 + 6x - 10$$

$$2x^3 - 7x^2 + 11x - 10$$