



Name _____ Date _____ Period _____

MULTIPLYING AND DIVIDING RATIONAL EXPRESSIONS WORKSHEET

Steps for Multiplying Rational Expressions

- 1) Factor numerators and denominators completely
- 2) Cancel, if possible
- 3) Multiply numerators and denominators across

1. $\frac{2a^2b}{b^2c} \cdot \frac{b}{a}$

Steps for Dividing Rational Expressions

- 1) Take the reciprocal of the divisor.
- 2) Multiply the dividend and the reciprocal of the divisor

2. $\frac{y^2 - 2y - 15}{4} \cdot \frac{8}{y + 3}$

3. $\frac{x - 5}{6} \div \frac{2x - 10}{12}$

4. $\frac{5n + 15}{4n + 8} \cdot \frac{2n + 4}{3n + 9}$

5. $\frac{x^2 - 2x}{6} \div \frac{3x - 6}{x}$

6. $\frac{m^2 - 2m - 8}{8m + 24} \div \frac{2m - 8}{m^2 + 7m + 12}$

7. $\frac{x + 3}{10x + 20} \cdot \frac{x + 2}{x^2 + 4x + 3}$

8. $\frac{x^2 - x - 12}{x - 4} \div \frac{2x + 6}{x - 5}$

9. $\frac{x^2 - 5x - 6}{5x + 15} \div \frac{x^2 - 3x - 4}{7x + 21}$

10. $\frac{24x^3}{25y^5} \cdot \frac{15y^2}{8x^2}$

11.
$$\frac{6x-18}{4x} \cdot \frac{x}{2x-6}$$

12.
$$\frac{3x+12}{12x} \div \frac{x+4}{48x^3}$$

13.
$$\frac{2x+6}{5x+10} \cdot \frac{x+2}{x^2+4x+3}$$

14.
$$\frac{x^2-x-12}{3x-9} \div \frac{x-4}{12}$$

15.
$$\frac{x^2-5x+4}{x^2} \div \frac{x-1}{x}$$

16.
$$\frac{6}{x^2+9x+20} \cdot \frac{8x+40}{6x-12}$$

17.
$$\frac{5x-15}{4x^2} \cdot \frac{x^3}{6x-18}$$

18.
$$\frac{7x^2}{12x} \div \frac{14x^3}{48y^3}$$

19.
$$\frac{x^2+5x-24}{2x+2} \div \frac{3x+24}{x^2-8x-9}$$

20.
$$\frac{24x^3}{50x} \cdot \frac{30}{8x^2}$$

21.
$$\frac{4x}{8x+8} \cdot \frac{x^2+8x+7}{8x^3}$$

22.
$$\frac{6x-12}{x^2-9x+18} \cdot \frac{7x-21}{5x-10}$$