

11-1 Simplifying Rational Expressions

Simplify:

1. $\frac{21a^2b^4}{7a^3b}$

2. $\frac{2n-3}{6n-9}$

3. $\frac{y^2-3y+2}{3y-3}$

4. $\frac{2d^2-2d-12}{d^2+5d+6}$

5. $\frac{e^2-2e-15}{25-e^2}$

11-2 Multiplying Rational Expressions

Multiply and simplify:

1.
$$\frac{4a^3b}{3a^2b^2} \cdot \frac{9ab}{8}$$

2.
$$\frac{n+3}{3n} \cdot \frac{6n^2}{n^2+n-6}$$

3.
$$\frac{4x+4}{5x+10} \cdot \frac{30x+60}{2x-2}$$

4.
$$\frac{2y+9}{4y+12} \cdot (y^2 + y - 6)$$

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

11-3 Dividing Rational Expressions

Divide and simplify:

1.
$$\frac{8a^2b^3}{6ab^4} \div \frac{6ab}{9}$$

2.
$$\frac{3t+12}{5t} \div \frac{t+4}{10t}$$

3.
$$\frac{k^2+5k-6}{8k^3} \div \frac{k^2+6k}{24k^2}$$

4.
$$\frac{x^2+10x-11}{x^2+12x+11} \div (x-1)$$

5.
$$\frac{2n^2-5n-3}{4n^2-12n-7} \div \frac{4n+5}{2n-7}$$

11-4 Adding & Subtracting Rational Expressions

Add or subtract and simplify:

1. $\frac{9}{2y+4} - \frac{5}{2y+4}$

(2)

2. $\frac{4}{6b^2} + \frac{5}{8b^3}$

(2)

3. $\frac{x}{x+3} - \frac{2}{x^2-9}$

(3)

4. $\frac{4}{y-1} - \frac{3}{y+1}$

(3)

11-5 Solving Rational Equations

Solve each equation. Be sure to check for extraneous solutions!

1.
$$\frac{2}{p+3} = \frac{7}{2p}$$

2.
$$\frac{4}{p+3} = \frac{p-3}{4}$$

(3)

(3)

3.
$$\frac{1}{p-5} = \frac{p}{p^2-25}$$

(4)