

Rational Operations

Multiply each expression.

1)
$$\frac{7(x-5)}{(x-5)(x-2)} \cdot \frac{6x(x-2)}{7}$$

2)
$$\frac{8b^2(b-2)}{7} \cdot \frac{8}{8b^2(b-2)}$$

3)
$$\frac{1}{5x^3 - 20x^2} \cdot \frac{x^2 - 7x + 12}{2x}$$

4)
$$\frac{8k}{k-5} \cdot \frac{k^2 - 13k + 40}{5k^2 - 40k}$$

5)
$$\frac{6}{2} \cdot \frac{3m}{4m}$$

6)
$$\frac{7v}{9} \cdot \frac{4}{10v^2}$$

Divide each expression.

7)
$$\frac{5}{a+6} \div \frac{5(a-6)}{2(a-6)}$$

8)
$$\frac{7(3a+1)}{a-4} \div \frac{7(3a+1)}{(a+7)(a-4)}$$

9)
$$\frac{3x^2}{3} \div \frac{2}{7x}$$

10)
$$\frac{5x}{7x^2} \div \frac{9}{3}$$

11)
$$\frac{b+1}{b^2 - 19b + 90} \div \frac{1}{b-10}$$

12)
$$\frac{1}{n-1} \div \frac{n-7}{n^2 - 10n + 21}$$

Add each expression.

$$13) \frac{x-2y}{8x^4} + \frac{x-2y}{8x^4}$$

$$14) \frac{x-3y}{9x} + \frac{x-2y}{9x}$$

$$15) \frac{n+3}{2n^4+4n^3} + \frac{n-3}{2n^4+4n^3}$$

$$16) \frac{b-2}{b^2-2b-3} + \frac{b-1}{b^2-2b-3}$$

$$17) \frac{4}{n+4} + \frac{2n}{3}$$

$$18) \frac{m-3}{3} + \frac{m-2}{m-4}$$

Subtract each expression.

$$19) \frac{6n-6}{2n-6} - \frac{n-2}{2n-6}$$

$$20) \frac{x+2}{18x^2+12x} - \frac{x-1}{18x^2+12x}$$

$$21) \frac{4m-3n}{15m} - \frac{m-3n}{15m}$$

$$22) \frac{3x+2y}{15x} - \frac{x-5y}{15x}$$

$$23) \frac{6}{k+4} - \frac{3}{k-6}$$

$$24) \frac{3k+1}{6} - \frac{k+3}{k+5}$$