

Simplifying Rational Expressions (A)

ANSWERS



Section A Simplify the following algebraic fractions.

$$1) \frac{x(x+3)}{x} \quad x+3$$

$$7) \frac{x(x+5)(x-5)}{(x+5)} \quad x(x-5)$$

$$2) \frac{y(y-8)}{y} \quad y-8$$

$$8) \frac{9y(2y-1)(y-1)}{27y^2(y-1)} \quad \frac{2y-1}{3y}$$

$$3) \frac{x(x+5)}{(x+5)} \quad x$$

$$9) \frac{x(x+1)(x-1)(x+1)(x-1)}{(x+1)(x-1)} \quad x(x+1)(x-1)$$

$$4) \frac{8(y-16)}{4} \quad 2(y-16)$$

$$10) \frac{8y(y+4)^2}{12y^2(y+4)} \quad \frac{2(y+4)}{3y}$$

$$5) \frac{5(x-7)}{10x(x-7)} \quad \frac{1}{2x}$$

$$11) \frac{x(3x-2)}{7x^3(3x-2)^2} \quad \frac{1}{7x^2(3x-2)}$$

$$6) \frac{3x(3x-4)}{18x^2(3x-4)} \quad \frac{1}{6x}$$

$$12) \frac{3x^3(5y-3)(y+3)}{18x^4(5y-3)^3} \quad \frac{y+3}{6x(5y-3)^2}$$

Section B Simplify the following algebraic fractions.

$$1) \frac{8x+4}{2} \quad 4x+2$$

$$10) \frac{x^2-13x+36}{x-4} \quad x-9$$

$$2) \frac{2y+6}{4} \quad \frac{y+3}{2}$$

$$11) \frac{x^2-8x-20}{9x+18} \quad \frac{x-10}{9}$$

$$3) \frac{7x}{14x-21} \quad \frac{x}{2x-3}$$

$$12) \frac{5x+40}{x^2+6x-16} \quad \frac{5}{x-2}$$

$$4) \frac{9y^2}{3y+27y^2} \quad \frac{3y}{1+9y}$$

$$13) \frac{12x+20}{9x^2+9x-10} \quad \frac{4}{3x-2}$$

$$5) \frac{x-4}{5x-20} \quad \frac{1}{5}$$

$$14) \frac{x^2+5x+6}{x^2+14x+24} \quad \frac{(x+3)}{(x+12)}$$

$$6) \frac{6y-30y^2}{24y^2} \quad \frac{1-5y}{4y}$$

$$15) \frac{x^2-7x-44}{x^2-17x+66} \quad \frac{(x+4)}{(x-6)}$$

$$7) \frac{x-4}{4-x} \quad -1$$

$$16) \frac{6x^2-x-1}{15x^2+8x+1} \quad \frac{(2x-1)}{(5x+1)}$$

$$8) \frac{21-3x}{42x-6x^2} \quad \frac{1}{2x}$$

$$17) \frac{x^2-y^2}{(x+y)^2} \quad \frac{(x-y)}{(x+y)}$$

$$9) \frac{x+2}{x^2+7x+10} \quad \frac{1}{x+5}$$

$$18) \frac{4y^2-9x^2}{4x^2y+6x^3} \quad \frac{(2y-3x)}{2x^2}$$