

Simplifying Rational Expressions (A)



Section A Simplify the following algebraic fractions.

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

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

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

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

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

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

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

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

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

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

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

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

Section B Simplify the following algebraic fractions.

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

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

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

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

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

6) $\frac{6y-30y^2}{24y^2}$

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

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

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

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

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

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

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

14) $\frac{x^2+5x+6}{x^2+14x+24}$

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

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

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

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