EduSahara™ Assignment

Name : Addition and Subtraction of Algebraic Fractions

Chapter : Simplification of Algebraic Fractions

Grade : ICSE Grade VIII

License : Non Commercial Use

1. Simplify $\frac{6}{(a+b)} - \frac{4}{(a-b)} + \frac{10b}{(a^2-b^2)}$

(i) $\frac{5a}{(a^2-b^2)}$ (ii) $\frac{(-2a)}{(-a^2-b^2)}$ (iii) $\frac{3a}{(a^2-b^2)}$ (iv) $\frac{2a}{(a^2-b^2)}$ (v) $\frac{2a}{(-a^2-b^2)}$

2. Simplify $\frac{1}{(a-b)} - \frac{1}{(a+b)} + \frac{2a}{(a^2-b^2)}$

(i) $\frac{2}{(-a-b)}$ (ii) $\frac{3}{(a-b)}$ (iii) $\frac{5}{(a-b)}$ (iv) $\frac{4}{(-a-b)}$ (v) $\frac{2}{(a-b)}$

3. Simplify $\frac{2x}{(x^2-36)} + \frac{7x}{(x^2+x-42)}$

(i) $\frac{(10x^2+56x)}{(x^3+7x^2-36x+252)}$ (ii) $\frac{(9x^2+56x)}{(x^3+7x^2-36x-252)}$ (iii) $\frac{(9x^2+56x)}{(x^3+7x^2-36x+252)}$

(iv) $\frac{(11x^2+56x)}{(-2x^3+7x^2-36x-252)}$ (v) $\frac{(-9x^2+56x)}{(x^3+7x^2-36x+252)}$

4. Simplify $\frac{(x^2-x-20)}{(x^2-16)} + \frac{(x^2-11x+24)}{(x^2-12x+32)}$

(i) $\frac{(2x+8)}{(x+4)}$ (ii) $\frac{(5x-8)}{(-x-4)}$ (iii) $\frac{(2x-8)}{(x-4)}$ (iv) $\frac{(2x-8)}{(x+4)}$ (v) $\frac{(3x-8)}{(x+4)}$

5. Simplify $\frac{(x-6)}{(x^2-36)} + \frac{(4x-5)}{(4x^2-29x+30)} - \frac{(2x-4)}{(x^2-36)}$

(i) $\frac{4}{(x^2-36)}$ (ii) $\frac{4}{(x^2+36)}$ (iii) $\frac{6}{(x^2+36)}$ (iv) $\frac{5}{(x^2+36)}$ (v) $\frac{6}{(-x^2-36)}$

6. Simplify $\frac{1}{(x^2+13x+42)} + \frac{1}{(x^2+15x+56)} + \frac{2}{(x^2+4x-12)}$

(i) $\frac{(4x+12)}{(x^3+12x^2+20x-96)}$ (ii) $\frac{(4x-12)}{(x^3+12x^2+20x+96)}$ (iii) $\frac{(5x+12)}{(x^3+12x^2+20x+96)}$ (iv) $\frac{(6x+12)}{(-x^3+12x^2+20x-96)}$

(v) $\frac{(4x+12)}{(x^3+12x^2+20x+96)}$

7. Simplify $\frac{1}{(x^2-5x+4)}+\frac{1}{(x^2+x-2)}-\frac{2}{(x^2-7x+12)}$

(i) $\frac{(-8)}{(-x^3-5x^2-2x+24)}$ (ii) $\frac{(-8)}{(x^3-5x^2-2x-24)}$ (iii) $\frac{(-10)}{(x^3-5x^2-2x-24)}$ (iv) $\frac{(-9)}{(x^3-5x^2-2x-24)}$

(v) $\frac{(-10)}{(x^3-5x^2-2x+24)}$

8. Simplify $\frac{5}{(x-3)}-\frac{2}{(x+3)}$

(i) $\frac{(3x-21)}{(x^2+9)}$ (ii) $\frac{(3x+21)}{(x^2-9)}$ (iii) $\frac{(3x+23)}{(x^2-9)}$ (iv) $\frac{(4x+21)}{(x^2-9)}$ (v) $\frac{(3x+21)}{(x^2+9)}$

9. Simplify $\frac{(4x+4)}{3}-\frac{(2x+2)}{4}$

(i) $\frac{(5x+6)}{6}$ (ii) $\frac{(11x+10)}{12}$ (iii) $\frac{(5x+5)}{7}$ (iv) $\frac{(10x+10)}{12}$ (v) $\frac{(5x-5)}{7}$

10. Simplify $\frac{3}{(2x-2)}-\frac{(3x-1)}{4}$

(i) $\frac{(-5x^2+8x+10)}{(8x-8)}$ (ii) $\frac{(-3x^2+4x+5)}{(4x+4)}$ (iii) $\frac{(-3x^2+4x-5)}{(4x+4)}$ (iv) $\frac{(-6x^2+8x+10)}{(8x-8)}$ (v) $\frac{(-3x^2+5x+5)}{(4x-4)}$

11. Simplify $\frac{(3x-1)}{2x}+\frac{(4x+1)}{4x}$

(i) $\frac{(10x+1)}{(-4x)}$ (ii) $\frac{(20x+1)}{8x}$ (iii) $\frac{(20x-2)}{8x}$ (iv) $\frac{(10x-1)}{(-4x)}$ (v) $\frac{(21x-2)}{8x}$

12. Simplify $\frac{2}{(3x-3)}+\frac{4}{(6x-6)}$

(i) $\frac{2}{(x+1)}$ (ii) $\frac{5}{(3x-3)}$ (iii) $\frac{7}{(3x-3)}$ (iv) $\frac{4}{(3x-3)}$ (v) $\frac{4}{(3x+3)}$

13. Simplify $\frac{1}{(x^2-9x+8)}+\frac{1}{(x^2-12x+32)}$

(i) $\frac{(2x-5)}{(x^3-13x^2+44x-32)}$ (ii) $\frac{(2x-5)}{(x^3-13x^2+44x+32)}$ (iii) $\frac{(3x-5)}{(x^3-13x^2+44x+32)}$

(iv) $\frac{(5x-5)}{(-2x^3-13x^2+44x-32)}$ (v) $\frac{(2x+5)}{(x^3-13x^2+44x+32)}$

14. Simplify $\frac{1}{(x^2+2x-35)}-\frac{1}{(x^2+4x-45)}$

(i) $\frac{3}{(x^3+11x^2-17x+315)}$ (ii) $\frac{5}{(-x^3+11x^2-17x-315)}$ (iii) $\frac{2}{(x^3+11x^2-17x-315)}$

(iv) $\frac{4}{(x^3+11x^2-17x+315)}$ (v) $\frac{2}{(x^3+11x^2-17x+315)}$

15. Simplify $\frac{1}{(4x^2+6x-54)} - \frac{1}{(8x^2+30x-27)}$

(i) $\frac{(2x+3)}{(16x^3+12x^2-234x-162)}$ (ii) $\frac{(3x+3)}{(16x^3+12x^2-234x-162)}$ (iii) $\frac{(2x+3)}{(16x^3+12x^2-234x+162)}$

(iv) $\frac{(2x-3)}{(16x^3+12x^2-234x-162)}$ (v) $\frac{(5x+3)}{(14x^3+12x^2-234x+162)}$

Assignment Key

1) (iv)	2) (v)	3) (ii)	4) (iii)	5) (i)	6) (i)
7) (v)	8) (ii)	9) (iv)	10) (iv)	11) (iii)	12) (iv)
13) (i)	14) (iii)	15) (iii)			

Copyright © Small Systems Computing Pvt. Ltd.