

Exercises ^[A]

Simplify:

1. $\frac{5}{a+b} + \frac{2}{a+b}$

2. $\frac{7}{x-3} - \frac{2}{x-3}$

3. $\frac{6}{a+2} + \frac{5}{2+a}$

4. $\frac{1}{3(y+3)} + \frac{1}{y+3}$

5. $\frac{1}{3(x+1)} - \frac{1}{4(x+1)}$

6. $\frac{2}{5z+5} + \frac{1}{z+1}$

7. $\frac{5}{2a-2b} - \frac{1}{3a-3b}$

8. $\frac{3}{5x-15} - \frac{1}{10x-30}$

9. $\frac{8}{4x-2} - \frac{9}{6x-3}$

10. $\frac{4}{2x-2y} - \frac{5}{x-y}$

11. $\frac{7}{7r-7} - \frac{6}{6r-6}$

12. $\frac{8}{p+4} + \frac{2}{4+p}$

13. $\frac{6}{x-3} + \frac{1}{3-x}$

14. $\frac{2y}{y-5} - \frac{y}{5-y}$

15. $\frac{p}{q-r} + \frac{p}{r-q}$

16. $\frac{x}{x-3y} - \frac{2x}{3x-9y}$

17. $4 - \frac{4a}{a-2}$

18. $y - \frac{xy}{x+y}$

19. $\frac{p-q}{p+q} + 1$

20. $\frac{a}{b+a} + 2$

Exercises ^[B]

Simplify:

1. $\frac{5}{z+5} - \frac{6}{z+5} - \frac{1}{5+z}$

2. $\frac{5}{2x-7} - \frac{3}{7-2x} - \frac{1}{7-2x}$

3. $\frac{7}{2x-2} + \frac{1}{3-3x}$

4. $\frac{2y}{3y+6} - \frac{1}{4+2y}$

5. $\frac{4x}{3x-12} + \frac{5x}{24-6x}$

6. $5p+q - \frac{5p^2-q^2}{5p-q}$

7. $2x+1 - \frac{x^2-2}{x-2}$

8. $3p - \frac{p^2}{2p+3} - 2$

9. $\frac{7}{2x-2y} + \frac{5}{3y-3x} + \frac{1}{6x-6y}$

10. $\frac{2a}{5a-15b} - \frac{a}{15b-5a} - \frac{a}{a-3b}$

11. $x+1 - \frac{x^2-x-18}{x-3}$

12. $5y - \frac{4y^2+7y-4}{y+2} - 6$

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|------------------------|------------------------|----------------------|-------------------------|
| 1. $\frac{7}{a+b}$ | 6. $\frac{7}{5(z+1)}$ | 11. 0 | 16. $\frac{x}{3(x-3y)}$ |
| 2. $\frac{5}{x-3}$ | 7. $\frac{13}{6(a-b)}$ | 12. $\frac{10}{p+4}$ | 17. $\frac{-8}{a-2}$ |
| 3. $\frac{11}{a+2}$ | 8. $\frac{1}{2(x-3)}$ | 13. $\frac{5}{x-3}$ | 18. $\frac{y^2}{x+y}$ |
| 4. $\frac{4}{3(y+3)}$ | 9. $\frac{1}{2x-1}$ | 14. $\frac{3y}{y-5}$ | 19. $\frac{2p}{p+q}$ |
| 5. $\frac{1}{12(x+1)}$ | 10. $\frac{-3}{x-y}$ | 15. 0 | 20. $\frac{3a+2b}{b+a}$ |

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|--------------------------|-----------------------------|----------------------------|
| 1. $\frac{-2}{z+5}$ | 5. $\frac{x}{2(x-4)}$ | 9. $\frac{2}{x-y}$ |
| 2. $\frac{9}{2x-7}$ | 6. $\frac{20p^2}{5p-q}$ | 10. $\frac{-2a}{5(a-3b)}$ |
| 3. $\frac{19}{6(x-1)}$ | 7. $\frac{x^2-3x}{x-2}$ | 11. $\frac{-x+15}{x-3}$ |
| 4. $\frac{4y-3}{6(y+2)}$ | 8. $\frac{5p^2+5p-6}{2p+3}$ | 12. $\frac{y^2-3y-8}{y+2}$ |