

SUPPLEMENTARY SHEET 6
***Adding and Subtracting Rational Expressions
with Unlike Denominators***

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Work out the following 30 problems:

1. $\frac{5}{x} - \frac{6}{y}$

2. $\frac{n}{s} - \frac{m}{t}$

3. $\frac{3}{y^2} - \frac{2}{y}$

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

5. $\frac{2a+1}{5a} - \frac{4a-2}{4a}$

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

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

8. $\frac{4}{x-3} - \frac{3}{x}$

9. $\frac{4}{x+1} + \frac{2}{x-1}$

10. $\frac{1}{a+b} - \frac{1}{a-b}$

11. $\frac{5}{x^2-4} + \frac{3}{x-2}$

12. $\frac{3}{x^2-25} + \frac{4}{5-x}$

13. $\frac{2}{y^2-4} + \frac{1}{2y-y^2}$

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

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

16. $\frac{x+3}{3x} - \frac{5x-1}{5x^2}$

17. $\frac{3}{x+3} + \frac{5}{x-4}$

18. $\frac{6x}{x^2-9} + \frac{x}{x+3}$

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

20. $\frac{7x}{x^2-x-12} + \frac{18}{x^2-9}$

21. $\frac{2}{3x+1} - \frac{7}{12x^2+x-1}$

26. $\frac{4}{4x-1} + \frac{8x-15}{4x^2+11x-3}$

22. $\frac{2}{2x-5} + \frac{3}{8x^2-26x+15}$

27. $\frac{9}{2y+3} - \frac{5}{4y}$

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

28. $\frac{4}{5x+7} + \frac{7}{6x}$

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

29. $\frac{1}{3x^2-8x} + \frac{6}{8-3x}$

25. $\frac{4}{3x+7} + \frac{2x-6}{3x^2+22x+35}$

30. $\frac{x+4}{3x^2-4x} - \frac{6}{4-3x}$

ANSWERS

1. $\frac{5y-6x}{xy}$

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

21. $\frac{8x+5}{(3x+1)(4x-1)}$

2. $\frac{nt-ms}{st}$

12. $\frac{-4x-17}{(x-5)(x+5)}$

22. $\frac{8x-3}{(2x-5)(4x-3)}$

3. $\frac{3-2y}{y^2}$

13. $\frac{1}{y(y+2)}$

23. $\frac{3x+9}{x-6}$

4. $\frac{y-1}{2}$

14. $\frac{11x-8}{10x}$

24. $\frac{3x+10}{x-1}$

5. $\frac{-6a+7}{10a}$

15. $\frac{7}{20}$

25. $\frac{2}{x+5}$

6. $\frac{11x-18}{12x}$

16. $\frac{5x^2+3}{15x^2}$

26. $\frac{3}{x+3}$

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

17. $\frac{8x+3}{(x+3)(x-4)}$

27. $\frac{26y-15}{4y(2y+3)}$

8. $\frac{x+9}{x(x-3)}$

18. $\frac{x}{(x-3)}$

28. $\frac{59x+49}{6x(5x+7)}$

9. $\frac{6x-2}{(x+1)(x-1)}$

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

29. $\frac{-6x+1}{x(3x-8)}$

10. $\frac{-2b}{(a+b)(a-b)}$

20. $\frac{7x-24}{(x-4)(x-3)}$

30. $\frac{7x+4}{x(3x-4)}$