Adding Rational Expressions

No Calculator

Simplify Each of the Following:

1. $\dfrac{1}{x+9} + \dfrac{1}{(x-9)}$

2. $\dfrac{1}{x+5} + \dfrac{1}{(x-3)}$

3. $\dfrac{1}{x+1} + \dfrac{1}{(x+2)}$

4. $\dfrac{1}{x-1} + \dfrac{1}{(x-9)}$

5. $\dfrac{1}{x-6} + \dfrac{1}{(x-3)}$

6. $\dfrac{1}{x-4} + \dfrac{1}{(x-7)}$

7. $\dfrac{1}{x+5} + \dfrac{1}{(x-8)}$

8. $\dfrac{1}{x-2} + \dfrac{1}{(x-2)}$

9. $\dfrac{1}{x+1} + \dfrac{1}{(x-4)}$

10. $\dfrac{1}{x+3} + \dfrac{1}{(x+2)}$

11. $\dfrac{1}{x+9} + \dfrac{1}{(x-1)}$

12. $\dfrac{1}{x+4} + \dfrac{1}{(x-4)}$

13. $\dfrac{1}{x-1} + \dfrac{1}{(x-7)}$

14. $\dfrac{1}{x-3} + \dfrac{1}{(x+9)}$

15. $\dfrac{1}{x-2} + \dfrac{1}{(x-9)}$

16. $\dfrac{1}{x-2} + \dfrac{1}{(x+5)}$

17. $\dfrac{1}{x+4} + \dfrac{1}{(x-7)}$

Answers

1. $\dfrac{2x}{x^2-81}$

2. $\dfrac{2x+2}{x^2+2x-15}$

3. $\dfrac{2x+3}{x^2+3x+2}$

4. $\dfrac{2x-10}{x^2-10x+9}$

5. $\dfrac{2x-9}{x^2-9x+18}$

6. $\dfrac{2x-11}{x^2-11x+28}$

7. $\dfrac{2x-3}{x^2-3x-40}$

8. $\dfrac{2x-4}{x^2-4x+4}$

9. $\dfrac{2x-3}{x^2-3x-4}$

10. $\dfrac{2x+5}{x^2+5x+6}$

11. $\dfrac{2x+8}{x^2+8x-9}$

12. $\dfrac{2x}{x^2-16}$

13. $\dfrac{2x-8}{x^2-8x+7}$

14. $\dfrac{2x+6}{x^2+6x-27}$

15. $\dfrac{2x-11}{x^2-11x+18}$

16. $\dfrac{2x+3}{x^2+3x-10}$

17. $\dfrac{2x-3}{x^2-3x-28}$