



Add rational expressions with common denominators

- 1** Set up this fraction addition problem correctly

$$\frac{1}{2} + \frac{1}{4}$$

A $\frac{2}{4} + \frac{2}{4}$

B $1 + \frac{1}{4}$

C $\frac{2}{4} + \frac{1}{4}$

- 2** Add these fractions, but don't simplify the answer

$$\frac{1}{3} + \frac{1}{5}$$

A $\frac{5}{15}$

B 0

C $\frac{15}{15}$

D $\frac{1}{15}$

E $\frac{8}{15}$

F $\frac{4}{15}$

- 3** Set up the common denominator by multiplying each term by the missing factor over itself.

$$\frac{8}{x+5} - \frac{3}{x}$$

A $\frac{8}{x+5} \cdot \frac{x}{x} - \frac{3}{x}$

B $\frac{8}{x+5} \cdot \frac{x}{x} - \frac{3}{x} \cdot \frac{x+5}{x+5}$

C $\frac{8}{x+5} \cdot \frac{x}{x} + \frac{3}{x} \cdot \frac{x+5}{x+5}$

D $\frac{8}{x+5} \cdot \frac{x+5}{x+5} - \frac{3}{x} \cdot \frac{x}{x}$

- 4** Rewrite each term over the common denominator by carrying out the multiplication.

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

A $\frac{9}{(x-1)(x-2)} - \frac{4}{(x-1)(x-2)}$

B $\frac{9x-18}{(x-1)(x-2)} - \frac{4}{(x-1)(x-2)}$

C $\frac{9x-9}{(x-1)(x-2)} - \frac{4x-8}{(x-1)(x-2)}$

D $\frac{9x-18}{(x-1)(x-2)} - \frac{4x-4}{(x-1)(x-2)}$

- 5** Add or subtract the rational expressions, grouping like terms in the numerator.

$$\frac{9}{x-2} + \frac{2}{x}$$

A $\frac{7x+4}{(x-2)x}$

B $\frac{9+2}{x-2+x}$

C $\frac{11x-4}{(x-2)x}$

D $\frac{11}{(x-2)x}$

- 6** Add or subtract the rational expressions, grouping like terms in the numerator.

$$\frac{5}{x-2} + \frac{3}{x}$$

A $\frac{8x-6}{(x-2)x}$

B $\frac{8}{(x-2)x}$

C $\frac{5+3}{x-2+x}$

D $\frac{2x+6}{(x-2)x}$



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Add or subtract the rational expressions, grouping like terms in the numerator.

$$\frac{3}{x^2 - 9} - \frac{5}{x - 1}$$

A

$$\frac{-2}{(x+3)(x-3)(x-1)}$$

B

$$\frac{5x^2 + 3x - 48}{(x+3)(x-3)(x-1)}$$

C

$$\frac{-5x^2 + 3x + 42}{(x+3)(x-3)(x-1)}$$

D

$$\frac{3-5}{x^2 - 9 - x - 1}$$

8

Add or subtract the rational expressions, grouping like terms in the numerator.

$$\frac{4}{x^2 + 2x - 8} - \frac{6}{x^2 - 1}$$

A

$$\frac{4-6}{x^2 + 2x - 8 - x^2 - 1}$$

B

$$\frac{10x^2 + 12x - 52}{(x+4)(x-2)(x+1)(x-1)}$$

C

$$\frac{-2x^2 - 12x + 44}{(x+4)(x-2)(x+1)(x-1)}$$

D

$$\frac{-2}{(x+4)(x-2)(x+1)(x-1)}$$

9

Add or subtract the rational expressions, grouping like terms in the numerator.

$$\frac{7}{x-2} - \frac{8}{x}$$

A

$$\frac{15x - 16}{(x-2)x}$$

B

$$\frac{-1}{(x-2)x}$$

C

$$\frac{-x + 16}{(x-2)x}$$

D

$$\frac{7-8}{x-2-x}$$

10

Add or subtract the rational expressions, grouping like terms in the numerator.

$$\frac{8}{x^2 + 7x + 10} + \frac{7}{x + 3}$$

A

$$\frac{7x^2 + 57x + 94}{(x+5)(x+2)(x+3)}$$

B

$$\frac{15}{(x+5)(x+2)(x+3)}$$

C

$$\frac{-7x^2 - 41x - 46}{(x+5)(x+2)(x+3)}$$

D

$$\frac{8+7}{x^2 + 7x + 10 + x + 3}$$

11

Add or subtract the rational expressions, grouping like terms in the numerator.

$$\frac{3}{x+4} + \frac{3}{x}$$

A

$$\frac{6x + 12}{(x+4)x}$$

B

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

C

$$\frac{3+3}{x+4+x}$$

D

$$\frac{6}{(x+4)x}$$