

ADDING AND SUBTRACTING ALGEBRAIC FRACTIONS

Simplify:

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

2 $\frac{3x}{8} + \frac{x}{2}$

3 $\frac{a}{3} + \frac{4a}{5} - \frac{a}{6}$

4 $\frac{y}{2} + \frac{2y}{3} - \frac{y}{4}$

9 $\frac{x}{2} + \frac{y}{4} - \frac{x+y}{3}$

10 $\frac{a-2b}{6} - \frac{2a+b}{9}$

11 $\frac{3(a+b)}{4} - \frac{a-b}{6}$

12 $\frac{1}{x} - \frac{2}{3x}$

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$$13 \quad \frac{3}{a} + \frac{1}{a^2}$$

$$14 \quad \frac{1}{ab} - \frac{2}{b}$$

$$15 \quad \frac{m}{n} - \frac{n}{m}$$

$$16 \quad \frac{4}{xy} + \frac{3}{yz}$$

$$17 \quad \frac{5}{a^2b} - \frac{2}{ab^2}$$

$$18 \quad \frac{a+1}{6a} + \frac{a-4}{2a}$$

$$19 \quad \frac{1}{x+1} + \frac{2}{3}$$

$$20 \quad \frac{1}{x} + \frac{2}{x} - \frac{1}{x^2}$$

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For questions 22 to 29, write the lowest common multiple (LCM).

22 $(x - 3)$ and $(x + 3)$

23 x and $(x - 2)$

24 $(2x - 4)$ and $(3x - 6)$

Express each of the following as a single fraction.

31 $\frac{1}{a-b} + \frac{1}{a+b}$

32 $\frac{3}{x-y} - \frac{2}{x+y}$

33 $\frac{x}{x-y} + \frac{y}{x-y}$

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$$49 \quad \frac{1}{a+3} + \frac{a+4}{a^2+5a+6}$$

$$50 \quad \frac{3}{x^2-4} - \frac{2}{x^2-3x+2}$$

$$51 \quad \frac{x+1}{x-1} - \frac{x-1}{x+1}$$

$$52 \quad \frac{5}{x-2} + \frac{3}{x^2-4}$$

$$53 \quad \frac{3x}{x^2-16} - \frac{2}{x+4}$$

$$54 \quad \frac{5}{3x} - \frac{2}{x^2-5x}$$