

Review Exercise Set 10

Exercise 1: Perform the indicated operation.

$$\frac{x-1}{4} + \frac{2x-3}{4} =$$

Exercise 2: Perform the indicated operation.

$$\frac{x-7}{8xy^2} - \frac{4-3x}{8xy^2} =$$

Exercise 3: Perform the indicated operation.

$$\frac{5h^2+12h-1}{h-3} - \frac{4h^2+10h+14}{h-3} =$$

Exercise 4: Find the least common denominator (LCD).

$$\frac{a^2 + 4a + 3}{a^2 - a - 2} + \frac{a + 3}{a - 2}$$

Exercise 5: Find the least common denominator (LCD).

$$\frac{10n^2 + 21n - 10}{5n^2 - 22n + 8} - \frac{n^2 + 3n - 28}{2n^2 - 3n - 20}$$

Review Exercise Set 10 Answer Key

Exercise 1: Perform the indicated operation.

$$\begin{aligned}\frac{x-1}{4} + \frac{2x-3}{4} &= \frac{x-1+2x-3}{4} \\ &= \frac{3x-4}{4}\end{aligned}$$

Exercise 2: Perform the indicated operation.

$$\begin{aligned}\frac{x-7}{8xy^2} - \frac{4-3x}{8xy^2} &= \frac{x-7-(4-3x)}{8xy^2} \\ &= \frac{x-7-4+3x}{8xy^2} \\ &= \frac{4x-11}{8xy^2}\end{aligned}$$

Exercise 3: Perform the indicated operation.

$$\begin{aligned}\frac{5h^2+12h-1}{h-3} - \frac{4h^2+10h+14}{h-3} &= \frac{5h^2+12h-1-(4h^2+10h+14)}{h-3} \\ &= \frac{5h^2+12h-1-4h^2-10h-14}{h-3} \\ &= \frac{h^2+2h-15}{h-3} \\ &= \frac{(h+5)(h-3)}{h-3} \\ &= h+5\end{aligned}$$

Exercise 4: Find the least common denominator (LCD).

$$\frac{a^2+4a+3}{a^2-a-2} + \frac{a+3}{a-2}$$

Factor the denominator of the first fraction

$$a^2 - a - 2 = (a + 1)(a - 2)$$

Compare the denominators of the two fractions

First fraction: **$(a + 1)(a - 2)$**

Second fraction: $(a - 2)$

Lowest common denominator

$$\mathbf{(a + 1)(a - 2)}$$

Exercise 5: Find the least common denominator (LCD).

$$\frac{10n^2 + 21n - 10}{5n^2 - 22n + 8} - \frac{n^2 + 3n - 28}{2n^2 - 3n - 20}$$

Factor the denominator of the first fraction

$$5n^2 - 22n + 8 = (5n - 2)(n - 4)$$

$$2n^2 - 3n - 20 = (2n + 5)(n - 4)$$

Compare the denominators of the two fractions

First fraction: **$(5n - 2)(n - 4)$**

Second fraction: **$(2n + 5)(n - 4)$**

Lowest common denominator

$$\mathbf{(5n - 2)(n - 4)(2n + 5)}$$