Exercise 7.5

Question 1:
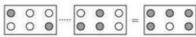
Write these fractions appropriately as additions or subtractions:

(a)

(b)

(c)

Answer:

(a) Here, it can be observed that 1st, 2nd, and 3rd rectangles are representing 1, 2, and 3 shaded parts out of 5 equal parts respectively. Clearly, the fraction represented by 3rd rectangle is the sum of the fractions represented by 1st and 2nd rectangles.

Hence, $\dfrac{1}{5} + \dfrac{2}{5} = \dfrac{3}{5}$

(b) Here, it can be observed that 1st, 2nd, and 3rd circles are representing 5, 3, and 2 shaded parts out of 5 equal parts respectively. Clearly, the fraction represented by 3rd circle is the difference between the fractions represented by 1st and 2nd circles.

Hence, $\dfrac{5}{5} - \dfrac{3}{5} = \dfrac{2}{5}$

(c) Here, it can be observed that 1st, 2nd, and 3rd rectangles are representing 2, 3, and 5 shaded parts out of 6 equal parts respectively. Clearly, the fraction represented by 3rd rectangle is the sum of the fractions represented by 1st and 2nd rectangles.

Hence, $\dfrac{2}{6} + \dfrac{3}{6} = \dfrac{5}{6}$

Question 2:

Solve:

(a) $\dfrac{1}{18} + \dfrac{1}{18}$ (b) $\dfrac{8}{15} + \dfrac{3}{15}$

(c) $\dfrac{7}{7} - \dfrac{5}{7}$ (d) $\dfrac{1}{22} + \dfrac{21}{22}$

(e) $\dfrac{12}{15} - \dfrac{7}{15}$ (f) $\dfrac{5}{8} + \dfrac{3}{8}$

(g) $1 - \dfrac{2}{3}\left(1 = \dfrac{3}{3}\right)$ (h) $\dfrac{1}{4} + \dfrac{0}{4}$

(i) $3 - \dfrac{12}{5}$

Answer:

(a) $\dfrac{1}{18} + \dfrac{1}{18} = \dfrac{1+1}{18} = \dfrac{2}{18} = \dfrac{1}{9}$

(b) $\dfrac{8}{15} + \dfrac{3}{15} = \dfrac{8+3}{15} = \dfrac{11}{15}$

(c) $\dfrac{7}{7} - \dfrac{5}{7} = \dfrac{7-5}{7} = \dfrac{2}{7}$

(d) $\dfrac{1}{22} + \dfrac{21}{22} = \dfrac{1+21}{22} = \dfrac{22}{22} = 1$

(e) $\dfrac{12}{15} - \dfrac{7}{15} = \dfrac{12-7}{15} = \dfrac{5}{15} = \dfrac{1}{3}$

(f) $\dfrac{5}{8} + \dfrac{3}{8} = \dfrac{5+3}{8} = \dfrac{8}{8} = 1$

(g) $1 - \dfrac{2}{3} = \dfrac{3}{3} - \dfrac{2}{3} = \dfrac{3-2}{3} = \dfrac{1}{3}$

(h) $\dfrac{1}{4} + \dfrac{0}{4} = \dfrac{1}{4} + 0 = \dfrac{1}{4}$

(i) $3 - \dfrac{12}{5} = \dfrac{15}{5} - \dfrac{12}{5} = \dfrac{15-12}{5} = \dfrac{3}{5}$

Question 3:

Shubham painted $\dfrac{2}{3}$ of the wall space in his room. His sister Madhavi helped and painted $\dfrac{1}{3}$ of the wall space. How much did they paint together?

Answer:

Space painted by Shubham = $\dfrac{2}{3}$ of the room

Space painted by Madhavi = $\dfrac{1}{3}$ of the room

Hence, together they painted = $\left(\dfrac{2}{3} + \dfrac{1}{3}\right)$ of the room

= 1 = the complete wall

Question 4:

Fill in the missing fractions.

(a) $\dfrac{7}{10} - \square = \dfrac{3}{10}$ (b) $\square - \dfrac{3}{21} = \dfrac{5}{21}$

(c) $\square - \dfrac{3}{6} = \dfrac{3}{6}$ (d) $\square + \dfrac{5}{27} = \dfrac{12}{27}$

Answer:

(a) $\dfrac{7}{10} - \square = \dfrac{3}{10}$

$\square = \dfrac{7}{10} - \dfrac{3}{10} = \dfrac{7-3}{10} = \dfrac{4}{10} = \dfrac{2}{5}$

(b) $\square - \dfrac{3}{21} = \dfrac{5}{21}$

$\square = \dfrac{5}{21} + \dfrac{3}{21} = \dfrac{5+3}{21} = \dfrac{8}{21}$

(c) $\square - \dfrac{3}{6} = \dfrac{3}{6}$

$\square = \dfrac{3}{6} + \dfrac{3}{6} = \dfrac{3+3}{6} = \dfrac{6}{6} = 1$

(d) $\square + \dfrac{5}{27} = \dfrac{12}{27}$

$\square = \dfrac{12}{27} - \dfrac{5}{27} = \dfrac{12-5}{27} = \dfrac{7}{27}$

Question 5:

Javed was given $\dfrac{5}{7}$ of a basket of oranges. What fraction of oranges was left in the basket?

Answer:

Fractions given to Javed = $\dfrac{5}{7}$

Fraction left in the basket = $1 - \dfrac{5}{7} = \dfrac{7}{7} - \dfrac{5}{7} = \dfrac{7-5}{7} = \dfrac{2}{7}$

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