

2.3 Answers

2.3.1 Solution to 2.2 Exercise

Answer 1

(i) {Multiples of 8} = {8, 16, **24**, 32, 40, 48, ...} [1 mark]

(ii) {Multiples of 12} = {12, **24**, 36, 48, 60, 72, ...} [1 mark]

(iii) $lcm\{8, 12\} = 24$ [1 mark]

(iv) $\frac{3}{8} + \frac{5}{12} = \frac{3}{8} \times \mathbf{1} + \frac{5}{12} \times \mathbf{1}$ Step 1: Multiply by 1
 $= \frac{3}{8} \times \frac{\mathbf{3}}{\mathbf{3}} + \frac{5}{12} \times \frac{\mathbf{2}}{\mathbf{2}}$ Step 2: Use $lcm\{8,12\}$ is 24
 $= \frac{9}{24} + \frac{10}{24}$ Step 3: Do the two multiplications
 $= \frac{19}{24}$ Step 4: Do the easy addition
[7 marks]

Answer 2

(i) {Multiples of 10} = {10, 20, 30, 40, **50**, 60, ...} [1 mark]

(ii) {Multiples of 25} = {25, **50**, 75, 100, 125, 150, ...} [1 mark]

(iii) $lcm\{10, 25\} = 50$ [1 mark]

(iv) $\frac{3}{10} + \frac{7}{25} = \frac{3}{10} \times \mathbf{1} + \frac{7}{25} \times \mathbf{1}$ Step 1: Multiply by 1
 $= \frac{3}{10} \times \frac{\mathbf{5}}{\mathbf{5}} + \frac{7}{25} \times \frac{\mathbf{2}}{\mathbf{2}}$ Step 2: Use $lcm\{10,25\}$ is 50
 $= \frac{15}{50} + \frac{14}{50}$ Step 3: Do the two multiplications
 $= \frac{29}{50}$ Step 4: Do the easy addition
[7 marks]

Answer 3

(i) {Multiples of 9} = {9, 18, 27, 36, 45, 54, 63, **72**, 81, 90, ...}

[1 mark]

(ii) {Multiples of 24} = {24, 48, **72**, 96, ...}

[1 mark]

(iii) $lcm\{9, 24\} = 72$

[1 mark]

(iv) $\frac{2}{9} + \frac{7}{24} = \frac{2}{9} \times \mathbf{1} + \frac{7}{24} \times \mathbf{1}$ Step 1: Multiply by 1

$= \frac{2}{9} \times \frac{\mathbf{8}}{\mathbf{8}} + \frac{7}{24} \times \frac{\mathbf{3}}{\mathbf{3}}$ Step 2: Use $lcm\{9,24\}$ is 72

$= \frac{16}{72} + \frac{21}{72}$ Step 3: Do the two multiplications

$= \frac{37}{72}$ Step 4: Do the easy addition

[7 marks]

Answer 4

(i) {Multiples of 12} = {12, 24, 36, 48, 60, 72, **84**, 96, ...}

[1 mark]

(ii) {Multiples of 14} = {14, 28, 42, 56, 70, **84**, 98, 112, ...}

[1 mark]

(iii) $lcm\{12, 14\} = 84$

[1 mark]

(iv) $\frac{5}{12} - \frac{1}{14} = \frac{5}{12} \times \mathbf{1} - \frac{1}{14} \times \mathbf{1}$ Step 1: Multiply by 1

$= \frac{5}{12} \times \frac{\mathbf{7}}{\mathbf{7}} - \frac{1}{14} \times \frac{\mathbf{6}}{\mathbf{6}}$ Step 2: Use $lcm\{12,14\}$ is 84

$= \frac{35}{84} - \frac{6}{84}$ Step 3: Do the two multiplications

$= \frac{29}{84}$ Step 4: Do the easy addition

[7 marks]