138 (3) (a) $\frac{2}{4}$ (b) $\frac{6}{8}$ (c) $\frac{2}{10}$ (d) $\frac{6}{9}$ (e) $\frac{15}{25}$ (f) $\frac{28}{32}$

(4)

$\frac{1}{3} < \frac{2}{5} < \frac{1}{2} < \frac{2}{3}$

140 (7) (a)

$\frac{3}{9} = \frac{1}{3}$ ($\div 3$)

(b) $\frac{6}{12} = \frac{3}{6}$ ($\div 2$)

(c) $\frac{12}{21} = \frac{4}{7}$ ($\div 3$)

(d) $\frac{10}{15} = \frac{2}{3}$ ($\div 5$)

(8) (a) $\frac{4}{6} = \frac{2}{3}$ ($\div 2$)

(b) $\frac{9}{12} = \frac{3}{4}$ ($\div 3$)

(c) $\frac{12}{18} = \frac{2}{3}$ ($\div 6$)

(d) $\frac{5}{10} = \frac{1}{2}$ ($\div 5$)

(e) $\frac{6}{8} = \frac{3}{4}$ ($\div 2$)

(f) $\frac{8}{28} = \frac{2}{7}$ ($\div 4$)

141 (9) (a) $\frac{1}{3}$ < $\frac{1}{2}$ (b) $\frac{1}{2}$ > $\frac{5}{12}$ (c) $\frac{2}{3}$ < $\frac{7}{10}$

(d) $\frac{1}{4}$ < $\frac{3}{10}$ (e) $\frac{5}{4}$ > $\frac{3}{4}$ (f) $\frac{7}{8}$ > $\frac{2}{7}$

(10)(a) $\frac{1}{2}, \frac{1}{8}, \frac{1}{7}$ $\frac{1}{8} < \frac{1}{7} < \frac{1}{2}$

(b) $\frac{2}{5}, \frac{9}{10}, \frac{8}{10}$ $\frac{2}{5} < \frac{8}{10} < \frac{9}{10}$

(11)(a) $\frac{5}{6}, \frac{3}{3}, \frac{11}{12}$ $\frac{3}{3} > \frac{11}{12} > \frac{5}{6}$

(b) $\frac{3}{8}, \frac{3}{4}, \frac{1}{2}$ $\frac{3}{4} > \frac{1}{2} > \frac{3}{8}$
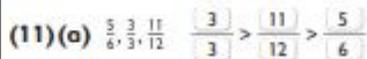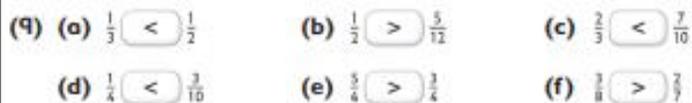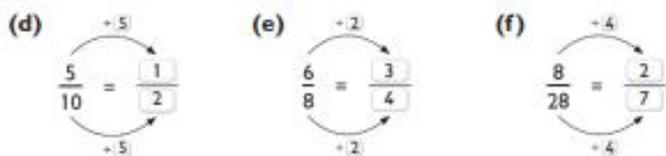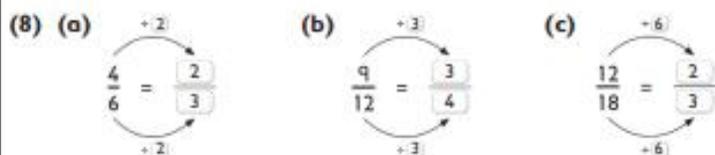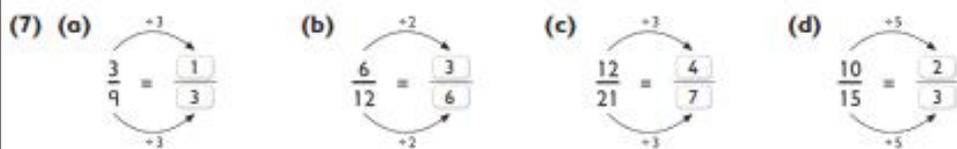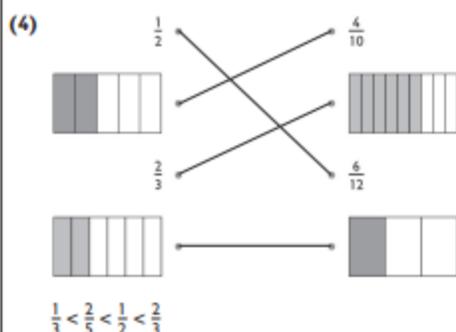
(1) (a) $1\frac{1}{2}$ (b) $1\frac{3}{4}$ (c) $2\frac{2}{3}$ (d) $1\frac{2}{5}$ (e) $6\frac{1}{2}$ (f) $3\frac{1}{3}$

(2) (a) $\frac{3}{2}$ (b) $\frac{11}{3}$ (c) $\frac{21}{8}$ (d) $\frac{21}{5}$ (e) $\frac{25}{7}$ (f) $\frac{38}{9}$

(3) (a) $1\frac{1}{2}$ (b) $1\frac{1}{4}$ (c) $2\frac{1}{2}$ (d) $1\frac{1}{2}$ (e) $2\frac{1}{4}$ (f) $2\frac{1}{3}$

(4) (a) $\frac{9}{2}$ ⟶ $9 \div 2 = 4$ r 1

The mixed number = $4\frac{1}{2}$

(b) $\frac{21}{5}$ ⟶ $21 \div 5 = 4$ r 1

The mixed number = $4\frac{1}{5}$

(c) $\frac{13}{3}$ ⟶ $13 \div 3 = 4$ r 1

The mixed number = $4\frac{1}{3}$

(d) $\frac{25}{4}$ ⟶ $25 \div 4 = 6$ r 1

The mixed number = $6\frac{1}{4}$

(e) $\frac{31}{7}$ ⟶ $31 \div 7 = 4$ r 3

The mixed number = $4\frac{3}{7}$

Page	Answers
150–151	**(1)** (a) 0.5 (b) 0.25 (c) 0.2 (d) 0.1 (e) 0.05 (f) 0.04 (g) 0.02 (h) 0.01 **(2)** (a) $\frac{1}{5}+\frac{1}{5}+\frac{1}{5}=\frac{3}{5}$ (b) $\frac{1}{4}+\frac{1}{4}+\frac{1}{4}=\frac{3}{4}$ (c) $\frac{1}{5}+\frac{1}{5}+\frac{1}{5}+\frac{1}{5}=\frac{4}{5}$ (d) $\frac{1}{100}+\frac{1}{100}+\frac{1}{100}+\frac{1}{100}=\frac{4}{100}$ (e) $\frac{1}{100}+\frac{1}{100}=\frac{2}{100}$ (f) $\frac{1}{100}+\frac{1}{100}+\frac{1}{100}=\frac{3}{100}$ **(3)** (a) 0.75 (b) 0.7 (c) 0.4 (d) 0.17 (e) 0.15 (f) 0.8 (g) 0.99 (h) 0.3 **(4)** (a) 2.75 (b) 3.3 (c) 5.6 (d) 6.11 (e) 14.7 (f) 1.99

Page	Answers
154	**(1)** (a) $\frac{3}{100}=0.03$ (b) $\frac{20}{100}=0.20$ (c) $\frac{10}{100}=0.10$ (d) $\frac{7}{100}=0.07$

Page	Answers
164	**(1)** (a) What percentage of the grid is light green? (b) What percentage of the grid is dark green? $\frac{12}{100}=\boxed{12}\%$ $\frac{1}{100}=\boxed{1}\%$ (c) What percentage of the grid is grey? $\frac{31}{100}=\boxed{31}\%$

166

(3) (a) What percentage of the rectangle is grey?

$$\underset{\times 10}{\overset{\times 10}{\frac{3}{10}}} = \frac{30}{100} = \boxed{30}\,\%$$

(b) What percentage of the rectangle is light green?

$$\underset{\times 10}{\overset{\times 10}{\frac{4}{10}}} = \frac{40}{100} = \boxed{40}\,\%$$

(c) What percentage of the rectangle is dark green?

$$\underset{\times 10}{\overset{\times 10}{\frac{1}{10}}} = \frac{10}{100} = \boxed{10}\,\%$$

(d) What percentage of the rectangle is white?

$$\underset{\times 10}{\overset{\times 10}{\frac{2}{10}}} = \frac{20}{100} = \boxed{20}\,\%$$

167

(4) (a) What percentage of the grid is dark green?

$$\underset{\times 4}{\overset{\times 4}{\frac{6}{25}}} = \frac{24}{100} = \boxed{24}\,\%$$

(b) What percentage of the grid is grey?

$$\underset{\times 4}{\overset{\times 4}{\frac{1}{25}}} = \frac{4}{100} = \boxed{4}\,\%$$

(c) What percentage of the grid is light green?

$$\underset{\times 4}{\overset{\times 4}{\frac{4}{25}}} = \frac{16}{100} = \boxed{16}\,\%$$

170

(7) (a) How many bricks are in the shape of a hexagon?

Recall that $\boxed{40}\% = \dfrac{40}{100}$

So, $\boxed{40}\%$ of $\boxed{180} = \dfrac{40}{100} \times \boxed{180}$

$= \boxed{72}$

So, $\boxed{72}$ bricks are in the shape of a hexagon.

(b) How many bricks are in the shape of a rectangle?

$\boxed{180} - \boxed{72} = \boxed{108}$

So, $\boxed{108}$ bricks are in the shape of a rectangle.

171

(8) (a) How much is the discount?

Recall that $\boxed{25}\% = \dfrac{25}{100} = \dfrac{1}{4}$

So, $\boxed{25}\%$ of \$ $\boxed{24} = \dfrac{1}{4} \times \boxed{24}$

$= \boxed{6}$

So, the discount is \$ $\boxed{6}$.

(b) What is the discounted price of the football?

$\boxed{24} - \boxed{6} = \boxed{18}$

So, the discounted price of the football is \$ $\boxed{18}$.

172–173 | (9) (a) 32% of 50 = [16]

$$\frac{32}{100} \times 50 = \frac{32 \times 50}{100}$$

$$= \frac{1600}{100}$$

$$= 16$$

(b) 40% of 45 = [18]

$$\frac{40}{100} \times 45 = \frac{40 \times 45}{100}$$

$$= \frac{1800}{100}$$

$$= 18$$

(c) 75% of 60 = [45]

$$\frac{75}{100} \times 60 = \frac{75 \times 60}{100}$$

$$= \frac{4500}{100}$$

$$= 45$$

(d) 42% of 150 = [63]

$$\frac{42}{100} \times 150 = \frac{42 \times 150}{100}$$

$$= \frac{6300}{100}$$

$$= 63$$

(e) 16% of 125 = [20]

$$\frac{16}{100} \times 125 = \frac{16 \times 125}{100}$$

$$= \frac{2000}{100}$$

$$= 20$$

(f) 35 % of 80 = [28]

$$\frac{35}{100} \times 80 = \frac{35 \times 80}{100}$$
$$= \frac{2\,800}{100}$$
$$= 28$$

(g) 92 % of 225 = [207]

$$\frac{92}{100} \times 225 = \frac{92 \times 225}{100}$$
$$= \frac{20\,700}{100}$$
$$= 207$$

(h) 28 % of 200 = [56]

$$\frac{28}{100} \times 200 = \frac{28 \times 200}{100}$$
$$= \frac{5\,600}{100}$$
$$= 56$$