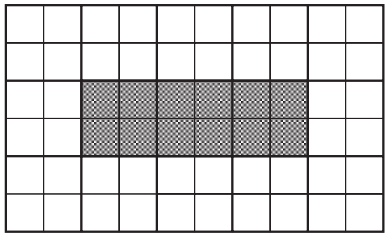
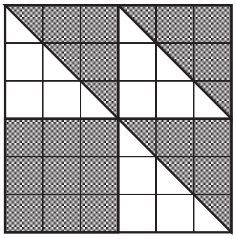
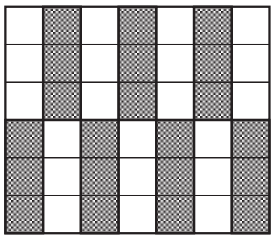
UNIT 10 *Arithmetic: Fractions* Extra Exercises 10.1

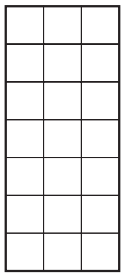
1. What fraction of each of these shapes has been shaded?

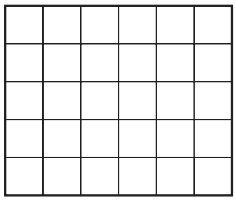
(a) 

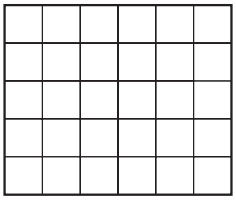
(b) 

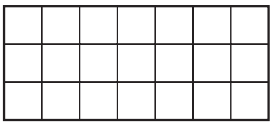
(c) 

2. Shade the stated fraction of each shape:

(a) $\frac{4}{7}$ 

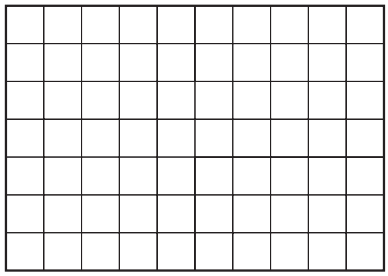
(b) $\frac{3}{5}$ 

(c) $\frac{7}{15}$ 

(d) $\frac{8}{21}$ 

What fraction of each shape has *not* been shaded?

3. Make 4 copies of this rectangle:



Shade:

(a) $\frac{2}{7}$ (b) $\frac{3}{5}$

(c) $\frac{7}{10}$ (d) $\frac{5}{14}$

UNIT 10 *Arithmetic: Fractions* Extra Exercises 10.2

1. Copy these equations and fill in the missing numbers:

(a) $\frac{2}{3} = \frac{?}{6}$ (b) $\frac{5}{7} = \frac{?}{14}$ (c) $\frac{3}{7} = \frac{?}{28}$

(d) $\frac{8}{22} = \frac{?}{11}$ (e) $\frac{6}{18} = \frac{?}{3}$ (f) $\frac{8}{18} = \frac{?}{9}$

(g) $\frac{28}{100} = \frac{?}{25}$ (h) $\frac{42}{72} = \frac{?}{12}$ (i) $\frac{18}{54} = \frac{?}{3}$

2. Write out each of these pairs of fractions, inserting either $<$, $>$ or $=$ between each fraction to make each statement correct:

(a) $\frac{4}{7} \quad \frac{4}{9}$ (b) $\frac{3}{12} \quad \frac{1}{4}$ (c) $\frac{1}{8} \quad \frac{1}{7}$

(d) $\frac{3}{15} \quad \frac{5}{9}$ (e) $\frac{3}{12} \quad \frac{4}{16}$ (f) $\frac{2}{6} \quad \frac{2}{7}$

(g) $\frac{5}{8} \quad \frac{5}{9}$ (h) $\frac{6}{7} \quad \frac{5}{6}$ (i) $\frac{1}{2} \quad \frac{14}{29}$

3. Write each of these fractions in the simplest possible form:

(a) $\frac{20}{60}$ (b) $\frac{15}{45}$ (c) $\frac{12}{36}$

(d) $\frac{10}{50}$ (e) $\frac{14}{21}$ (f) $\frac{6}{14}$

(g) $\frac{14}{18}$ (h) $\frac{1}{13}$ (i) $\frac{13}{52}$

UNIT 10 *Arithmetic: Fractions* Extra Exercises 10.3

1. Calculate:

(a) $\frac{1}{2}$ of 18 (b) $\frac{1}{4}$ of 20 (c) $\frac{1}{3}$ of 6

(d) $\frac{1}{7}$ of 21 (e) $\frac{1}{8}$ of 24 (f) $\frac{1}{5}$ of 40

(g) $\frac{1}{10}$ of 120 (h) $\frac{1}{12}$ of 24 (i) $\frac{1}{7}$ of 56

2. Calculate:

(a) $\frac{2}{3}$ of 6 (b) $\frac{4}{5}$ of 15 (c) $\frac{3}{7}$ of 14

(d) $\frac{3}{4}$ of 36 (e) $\frac{5}{7}$ of 14 (f) $\frac{6}{7}$ of 21

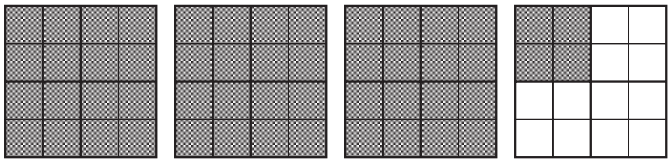
(g) $\frac{5}{9}$ of 45 (h) $\frac{3}{11}$ of 22 (i) $\frac{5}{16}$ of 32

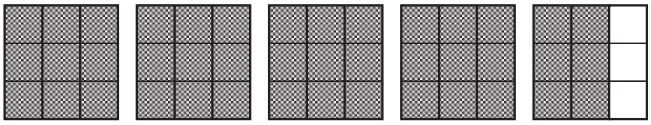
3. A car park is said to be $\frac{3}{4}$ full. How many cars are there in the car park if it holds:

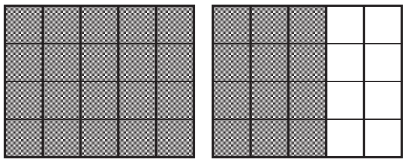
(a) 40 cars, (b) 100 cars, (c) 120 cars (d) 72 cars?

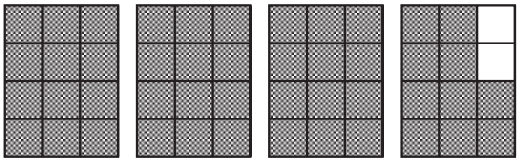
UNIT 10 *Arithmetic: Fractions* Extra Exercises 10.4

1. For each of these diagrams, write the number represented as a mixed number and also as an improper fraction:

(a) 

(b) 

(c) 

(d) 

2. Convert these mixed numbers to improper fractions:

(a) $4\frac{1}{2}$ (b) $2\frac{3}{4}$ (c) $6\frac{1}{2}$

(d) $5\frac{1}{4}$ (e) $1\frac{4}{5}$ (f) $2\frac{2}{7}$

(g) $4\frac{3}{7}$ (h) $2\frac{7}{9}$ (i) $6\frac{2}{5}$

3. Convert these improper fractions to mixed numbers:

(a) $\frac{11}{2}$ (b) $\frac{10}{3}$ (c) $\frac{10}{7}$

(d) $\frac{11}{9}$ (e) $\frac{12}{5}$ (f) $\frac{8}{7}$

(g) $\frac{15}{8}$ (h) $\frac{15}{9}$ (i) $\frac{16}{3}$

Extra Exercises 10.1 Answers

1. (a) $\frac{3}{15} = \frac{1}{5}$

   (b) $\frac{5}{8}$

   (c) $\frac{7}{14} = \frac{1}{2}$

2. (a) $\frac{3}{7}$ unshaded

   (b) $\frac{2}{5}$ unshaded

   (c) $\frac{8}{15}$ unshaded

   (d) $\frac{13}{21}$ unshaded

Extra Exercises 10.2 Answers

1. (a) $\frac{2}{3}=\frac{4}{6}$ (b) $\frac{5}{7}=\frac{10}{14}$ (c) $\frac{3}{7}=\frac{12}{28}$

   (d) $\frac{8}{22}=\frac{4}{11}$ (e) $\frac{6}{18}=\frac{1}{3}$ (f) $\frac{8}{18}=\frac{4}{9}$

   (g) $\frac{28}{100}=\frac{7}{25}$ (h) $\frac{42}{72}=\frac{7}{12}$ (i) $\frac{18}{54}=\frac{1}{3}$

2. (a) $\frac{4}{7}>\frac{4}{9}$ (b) $\frac{3}{12}=\frac{1}{4}$ (c) $\frac{1}{8}<\frac{1}{7}$

   (d) $\frac{3}{15}<\frac{5}{9}$ (e) $\frac{3}{12}=\frac{4}{16}$ (f) $\frac{2}{6}>\frac{2}{7}$

   (g) $\frac{5}{8}>\frac{5}{9}$ (h) $\frac{6}{7}>\frac{5}{6}$ (i) $\frac{1}{2}>\frac{14}{29}$

3. (a) $\frac{1}{3}$ (b) $\frac{1}{3}$ (c) $\frac{1}{3}$

   (d) $\frac{1}{5}$ (e) $\frac{2}{3}$ (f) $\frac{3}{7}$

   (g) $\frac{7}{9}$ (h) $\frac{1}{13}$ (i) $\frac{1}{4}$

Extra Exercises 10.3 Answers

1. (a) 9 (b) 5 (c) 2
   (d) 3 (e) 3 (f) 8
   (g) 12 (h) 2 (i) 8

2. (a) 4 (b) 12 (c) 6
   (d) 27 (e) 10 (f) 18
   (g) 25 (h) 6 (i) 10

3. (a) 30 (b) 75 (c) 90 (d) 54

Extra Exercises 10.4 Answers

1. (a) $3\frac{1}{4} = \frac{13}{4}$ (b) $4\frac{2}{3} = \frac{14}{3}$ (c) $1\frac{3}{5} = \frac{8}{5}$ (d) $3\frac{5}{6} = \frac{23}{6}$

2. (a) $\frac{9}{2}$ (b) $\frac{11}{4}$ (c) $\frac{13}{2}$

   (d) $\frac{21}{4}$ (e) $\frac{9}{5}$ (f) $\frac{16}{7}$

   (g) $\frac{31}{7}$ (h) $\frac{25}{9}$ (i) $\frac{32}{5}$

3. (a) $5\frac{1}{2}$ (b) $3\frac{1}{3}$ (c) $1\frac{3}{7}$

   (d) $1\frac{2}{9}$ (e) $2\frac{2}{5}$ (f) $1\frac{1}{7}$

   (g) $1\frac{7}{8}$ (h) $1\frac{6}{9} = 1\frac{2}{3}$ (i) $5\frac{1}{3}$