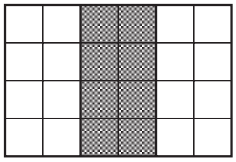
Practice Book *UNIT 10 Arithmetic: Fractions* Answers

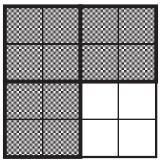
10.1 Fractions

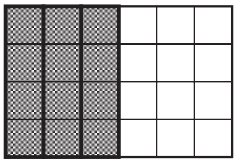
1. (a) $\frac{8}{9}$ (b) $\frac{3}{8}$ (c) $\frac{1}{6}$ (d) $\frac{5}{6}$ (e) $\frac{1}{4}$

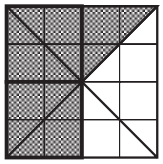
   (f) $\frac{7}{8}$ (g) $\frac{2}{5}$ (h) $\frac{3}{7}$ (i) $\frac{3}{16}$

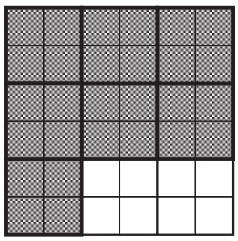
2. Possible answers:

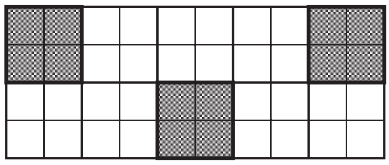
   (a)  $\frac{1}{3}$

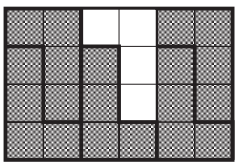
   (b)  $\frac{3}{4}$

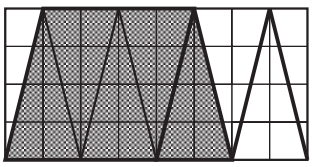
   (c)  $\frac{3}{5}$

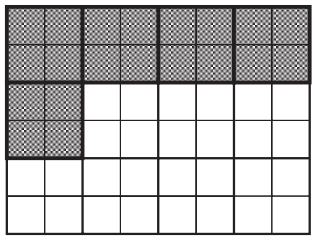
   (d)  $\frac{5}{8}$

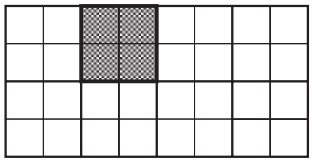
   (e)  $\frac{7}{9}$

   (f)  $\frac{3}{10}$

   (g)  $\frac{5}{6}$

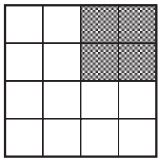
   (h)  $\frac{5}{7}$

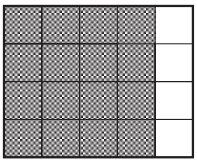
   (i)  $\frac{5}{12}$

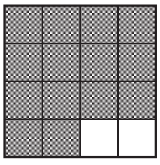
3. (a) and (b): possible answer: 

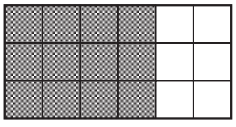
   (c) $\frac{7}{8}$

4. Possible answers:

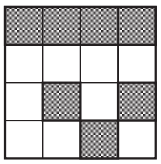
   (a)  $\frac{1}{4}$

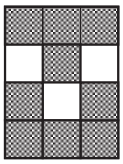
   (b)  $\frac{4}{5}$

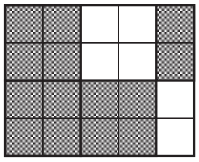
   (c)  $\frac{7}{8}$

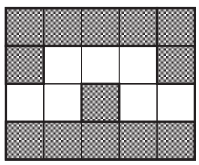
   (d)  $\frac{2}{3}$

10.1 Answers

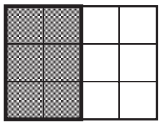
(e)  $\frac{7}{16}$

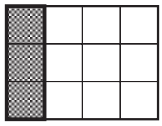
(f)  $\frac{9}{12}$

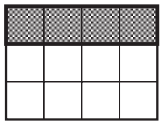
(g)  $\frac{7}{10}$

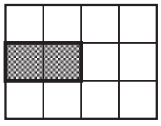
(h)  $\frac{13}{20}$

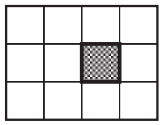
5. Possible answers:

(a) 

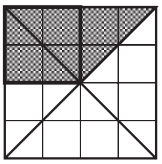
(b) 

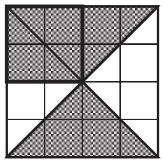
(c) 

(d) 

(e) 

6. (b) and (c): possible answers:





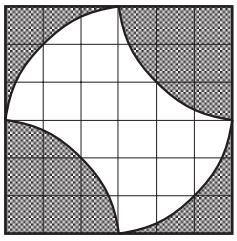
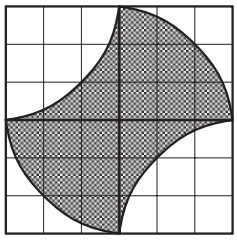
(d) $\frac{5}{8}$ shaded (e) $\frac{3}{8}$ unshaded

7. $\frac{4}{7}$

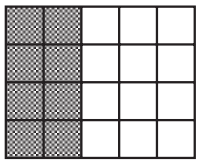
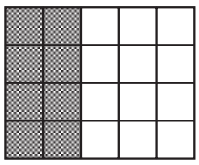
8. $\frac{8}{12} = \frac{2}{3}$

9. (a) $\frac{17}{20}$ (b) $\frac{3}{20}$

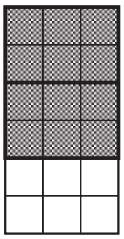
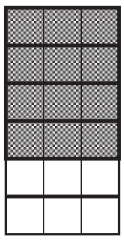
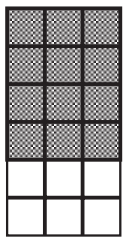
10. (a) $\frac{7}{10}$ (b) $\frac{3}{10}$

11.   etc.

10.2 Equivalent Fractions

1. $\frac{2}{5}$   $\frac{8}{20}$

10.2 Answers

2. $\frac{2}{3}$  $\frac{4}{6}$  $\frac{12}{18}$ 

3. $\frac{3}{5} = \frac{6}{10} = \frac{12}{20}$

4. (a) $\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8} = \frac{5}{10} = \frac{6}{12} = \frac{7}{14} = \frac{8}{16}$ (b) $\frac{1}{3} = \frac{2}{6} = \frac{3}{9} = \frac{4}{12} = \frac{5}{15}$

(c) $\frac{1}{4} = \frac{2}{8} = \frac{3}{12} = \frac{4}{16}$ (d) $\frac{1}{5} = \frac{2}{10} = \frac{3}{15}$ (e) $\frac{1}{6} = \frac{2}{12}$

(f) $\frac{1}{7} = \frac{2}{14}$ (g) $\frac{1}{8} = \frac{2}{16}$

5. (a) $\frac{3}{4} = \frac{6}{8}$ (b) $\frac{2}{5} = \frac{4}{10}$ (c) $\frac{5}{7} = \frac{10}{14}$ (d) $\frac{3}{4} = \frac{9}{12}$ (e) $\frac{2}{5} = \frac{6}{15}$ (f) $\frac{2}{3} = \frac{6}{9}$

(g) $\frac{3}{8} = \frac{6}{16}$ (h) $\frac{2}{7} = \frac{4}{14}$ (i) $\frac{2}{3} = \frac{8}{12}$ (j) $\frac{3}{4} = \frac{15}{20}$ (k) $\frac{3}{5} = \frac{12}{20}$ (l) $\frac{5}{7} = \frac{15}{21}$

6. (a) $\frac{1}{2} > \frac{1}{3}$ (b) $\frac{1}{4} > \frac{1}{5}$ (c) $\frac{1}{6} > \frac{1}{7}$ (d) $\frac{1}{10} < \frac{1}{9}$ (e) $\frac{1}{2} < \frac{2}{3}$ (f) $\frac{3}{4} > \frac{2}{3}$

(g) $\frac{2}{5} < \frac{1}{2}$ (h) $\frac{7}{10} < \frac{7}{8}$ (i) $\frac{5}{7} > \frac{3}{5}$ (j) $\frac{5}{6} > \frac{5}{7}$ (k) $\frac{2}{3} < \frac{5}{7}$ (l) $\frac{4}{5} < \frac{5}{6}$

7. (a) $\frac{15}{30} = \frac{1}{2}$ (b) $\frac{6}{9} = \frac{2}{3}$ (c) $\frac{9}{12} = \frac{3}{4}$ (d) $\frac{3}{12} = \frac{1}{4}$ (e) $\frac{8}{18} = \frac{4}{9}$

(f) $\frac{16}{40} = \frac{2}{5}$ (g) $\frac{30}{50} = \frac{3}{5}$ (h) $\frac{14}{21} = \frac{2}{3}$ (i) $\frac{16}{24} = \frac{2}{3}$ (j) $\frac{17}{51} = \frac{1}{3}$

(k) $\frac{144}{200} = \frac{18}{25}$ (l) $\frac{132}{216} = \frac{11}{18}$

8. (a) $\frac{1}{10}, \frac{1}{9}, \frac{1}{7}, \frac{1}{4}, \frac{1}{3},$ (b) $\frac{2}{9}, \frac{4}{7}, \frac{3}{5}, \frac{2}{3}$ (c) $\frac{2}{7}, \frac{4}{9}, \frac{3}{5}, \frac{5}{6}$

(d) $\frac{2}{7}, \frac{2}{5}, \frac{3}{7}, \frac{3}{5}, \frac{5}{7}$ (e) $\frac{1}{9}, \frac{3}{7}, \frac{5}{9}, \frac{5}{7}, \frac{7}{9}$

10.2 Answers

9. (a) $\frac{1}{3}$ (b) $\frac{3}{4}$ (c) $\frac{4}{5}$ (d) $\frac{9}{13}$ (e) $\frac{3}{4}$

   (f) $\frac{5}{8}$ (g) $\frac{1}{4}$ (h) $\frac{2}{5}$ (i) $\frac{22}{25}$

10. (a) False: $\frac{3}{5} > \frac{3}{7}$ (b) False: $\frac{3}{8} = \frac{33}{88}$ (c) True (d) True (e) False: $\frac{3}{8} < \frac{1}{2}$

    (f) False: $\frac{1}{6} > \frac{1}{7}$ (g) True (h) True (i) False: $\frac{44}{99} = \frac{4}{9}$

10.3 Fractions of Quantities

1. (a) 6 (b) 2 (c) 3 (d) 4 (e) 6 (f) 10

   (g) 2 (h) 8 (i) 5 (j) 8 (k) 8 (l) 4

2. (a) 18 (b) 16 (c) 6 (d) 4 (e) 25 (f) 16

   (g) 9 (h) 35 (i) 24 (j) 20 (k) 27 (l) 49

3. 18 marks

4. 191 girls

5. 12 pupils

6. (a) 153 pupils (b) 357 pupils

7. 5 houses

8. 225 foreign stamps

9. Ben: £18: Chris: £27

10. 33 pupils

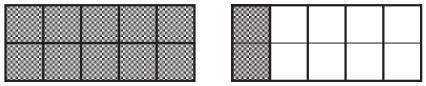
10.4 Answers

10.4 Mixed Numbers and Vulgar (Improper) Fractions

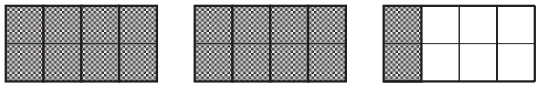
1. (a) $1\frac{1}{2}$, $\frac{3}{2}$ (b) $1\frac{3}{4}$, $\frac{7}{4}$ (c) $1\frac{1}{3}$, $\frac{4}{3}$ (d) $2\frac{1}{5}$, $\frac{11}{5}$

   (e) $2\frac{5}{8}$, $\frac{21}{8}$ (f) $3\frac{1}{4}$, $\frac{13}{4}$ (g) $1\frac{4}{9}$, $\frac{13}{9}$

2. (a) $1\frac{1}{5} = \frac{6}{5}$: for example,

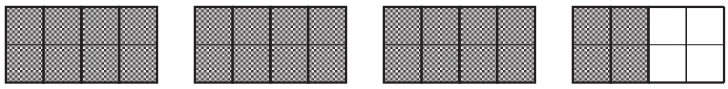


   (b) $2\frac{1}{4} = \frac{9}{4}$: for example,



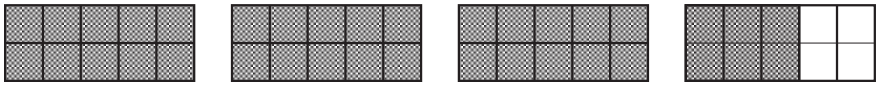
   (c) $2\frac{2}{3} = \frac{8}{3}$: for example,

3. (a) $\frac{7}{2} = 3\frac{1}{2}$: for example,



   (b) $\frac{8}{3} = 2\frac{2}{3}$: for example,

   (c) $\frac{18}{5} = 3\frac{3}{5}$: for example,



4. (a) $4\frac{1}{2}$ (b) $1\frac{1}{3}$ (c) $1\frac{2}{3}$ (d) $2\frac{2}{5}$ (e) $3\frac{3}{5}$

   (f) $1\frac{2}{7}$ (g) $1\frac{2}{9}$ (h) $2\frac{1}{4}$ (i) $1\frac{3}{5}$ (j) $2\frac{4}{9}$

   (k) $1\frac{1}{5}$ (l) $2\frac{4}{5}$ (m) $1\frac{6}{7}$ (n) $2\frac{5}{7}$ (o) $2\frac{2}{9}$

5. (a) $\frac{8}{5}$ (b) $\frac{9}{2}$ (c) $\frac{9}{4}$ (d) $\frac{13}{2}$ (e) $\frac{22}{3}$

   (f) $\frac{17}{3}$ (g) $\frac{59}{7}$ (h) $\frac{22}{5}$ (i) $\frac{36}{5}$ (j) $\frac{32}{9}$

   (k) $\frac{31}{7}$ (l) $\frac{19}{5}$ (m) $\frac{55}{9}$ (n) $\frac{23}{3}$ (o) $\frac{39}{8}$

10.4 Answers

6. $3\frac{1}{4}, \quad \frac{18}{5}, \quad 5\frac{1}{3}, \quad \frac{17}{3}, \quad 6\frac{1}{2}$

7. (a) $2\frac{3}{5} = \frac{13}{5}$ (b) $3\frac{4}{7} < \frac{26}{7}$ (c) $3\frac{7}{8} < 4$ (d) $6\frac{1}{2} < \frac{22}{3}$

   (e) $4\frac{1}{4} < \frac{19}{4}$ (f) $\frac{3}{2} > \frac{2}{3}$ (g) $\frac{2}{5} < \frac{1}{2}$ (h) $\frac{7}{10} < \frac{7}{8}$

   (i) $\frac{5}{7} > \frac{3}{5}$ (j) $\frac{5}{6} > \frac{5}{7}$ (k) $\frac{2}{3} < \frac{5}{6}$ (l) $\frac{4}{5} < \frac{5}{6}$

8. $3\frac{5}{8} = \frac{3 \times 8 + 5}{8} = \frac{29}{8} = \frac{29 \times 2}{8 \times 2} = \frac{58}{16}$

9. 1250 sheets

10. $\frac{44}{12} = \frac{11}{3} = 3\frac{2}{3}$ years