

Pages 4–5

- a) $\frac{3}{12}$
c) $\frac{2}{12}$
 - a) $\frac{2}{8}$
c) $\frac{4}{8}$
 - a) 6ths
 - a) $\frac{4}{6}$
 - a) $\frac{2}{3}$
 - Science
- b) $\frac{4}{12}$
d) $\frac{6}{12}$
b) $\frac{6}{8}$
 - b) 9ths
b) $\frac{9}{12}$
b) $\frac{3}{8}$
 - c) 15ths
c) $\frac{6}{15}$
c) $\frac{11}{12}$

Pages 6–7

- a) $\frac{1}{3}, \frac{4}{9}, \frac{5}{9}, \frac{2}{3}, \frac{7}{9}$
c) $\frac{1}{8}, \frac{1}{4}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$
e) $\frac{2}{5}, \frac{5}{10}, \frac{12}{20}, \frac{4}{5}, \frac{9}{10}$
 - a) $\frac{3}{15}, \frac{7}{15}, \frac{2}{3}, \frac{4}{5}$
c) $\frac{1}{9}, \frac{5}{18}, \frac{5}{9}, \frac{2}{3}, \frac{14}{18}$
 - a) $\frac{1}{3}, \frac{5}{12}, \frac{1}{2}, \frac{4}{6}, \frac{3}{4}$
c) $\frac{4}{12}, \frac{1}{2}, \frac{5}{8}, \frac{17}{24}, \frac{5}{6}, \frac{2}{3}$
e) $\frac{2}{7}, \frac{6}{14}, \frac{4}{7}, \frac{10}{14}, \frac{18}{21}$
- b) $\frac{1}{3}, \frac{3}{6}, \frac{4}{6}, \frac{5}{6}, \frac{3}{3}$
d) $\frac{1}{5}, \frac{3}{10}, \frac{6}{10}, \frac{7}{10}, \frac{4}{5}$
 - b) $\frac{2}{12}, \frac{7}{12}, \frac{2}{3}, \frac{5}{6}$
d) $\frac{1}{4}, \frac{3}{8}, \frac{1}{2}, \frac{3}{4}, \frac{7}{8}$
 - b) $\frac{8}{15}, \frac{3}{5}, \frac{4}{6}, \frac{7}{10}, \frac{24}{30}$
d) $\frac{2}{18}, \frac{1}{6}, \frac{2}{9}, \frac{4}{9}, \frac{2}{3}, \frac{5}{6}$

Pages 8–9

- a) $\frac{4}{12}$
c) $\frac{6}{8}$
e) $\frac{2}{6}$
 - $\frac{3}{4} = \frac{6}{8} = \frac{9}{12}$
 $\frac{2}{6} = \frac{3}{9} = \frac{4}{12}$
 - a) $\frac{3}{9}$
c) $\frac{6}{8}$
 - a) $\frac{4}{20}$
c) $\frac{12}{24}$
 - $\frac{1}{3} = \frac{4}{12} = \frac{8}{24}$
 $\frac{1}{4} = \frac{3}{12} = \frac{5}{20}$
 $\frac{2}{3} = \frac{8}{12} = \frac{12}{18}$
 $\frac{3}{4} = \frac{9}{12} = \frac{12}{16}$
 $\frac{3}{5} = \frac{12}{20} = \frac{9}{15}$
 - $\frac{4}{13}$
 - $\frac{6}{12}$ and $\frac{1}{2}$
- b) $\frac{3}{9}$
d) $\frac{3}{4}$
f) $\frac{9}{12}$
 - b) $\frac{8}{12}$
d) $\frac{3}{5}$
b) $\frac{16}{20}$
d) $\frac{3}{4}$

Pages 10–11

- a) $\frac{30}{100}$
c) $\frac{40}{100}$
e) $\frac{50}{100}$
 - a) $\frac{6}{10}$
c) $\frac{8}{10}$
 - a) $\frac{8}{10}$
c) $\frac{6}{30}$
- b) $\frac{90}{100}$
d) $\frac{70}{100}$
f) $\frac{80}{100}$
 - b) $\frac{2}{10}$
 - b) $\frac{3}{10}$

- a) $\frac{25}{100}$
c) $\frac{3}{20}$
- $\frac{2}{5} = \frac{32}{80} = \frac{8}{20} = \frac{4}{10} = \frac{16}{40} = \frac{40}{100}$
- $\frac{3}{10}$
- $\frac{20}{100} = \frac{4}{20}$

Pages 12–13

- a) $\frac{7}{9}$
c) $\frac{16}{21}$
 - a) $\frac{5}{6}$
c) $\frac{11}{12}$
 - a) $\frac{3}{4}$
c) $\frac{3}{8}$
 - a) $\frac{11}{21}$
c) $\frac{17}{28}$
 - $\frac{14}{24}$ or $\frac{7}{12}$
 - $\frac{36}{45}$ or $\frac{4}{5}$
 - $\frac{22}{25}$
- b) $\frac{15}{18}$ or $\frac{5}{6}$
b) $\frac{6}{8}$ or $\frac{3}{4}$
d) $\frac{5}{4}$
b) $\frac{3}{6}$ or $\frac{1}{2}$
b) $\frac{37}{48}$

Pages 14–15

- a) $\frac{2}{11}$
c) $\frac{3}{15}$ or $\frac{1}{5}$
 - a) $\frac{2}{6}$ or $\frac{1}{3}$
c) 0
 - a) $\frac{2}{6}$
c) $\frac{2}{9}$
 - a) $\frac{4}{14}$
c) $\frac{11}{18}$
 - $\frac{4}{10}$ or $\frac{2}{5}$
 - $\frac{17}{36}$
 - $\frac{4}{16}$
- b) $\frac{4}{8}$ or $\frac{1}{2}$
b) $\frac{1}{8}$
d) $\frac{5}{8}$
b) $\frac{2}{12}$
b) $\frac{5}{12}$

Page 16

- a) $\frac{3}{8}$
c) $\frac{3}{4}$
 - $\frac{1}{3}, \frac{1}{2}, \frac{7}{12}, \frac{4}{6}, \frac{3}{4}, \frac{20}{24}$
 - $\frac{2}{3}$ $\frac{5}{6}$
 $\frac{18}{24}$ $\frac{10}{15}$
 $\frac{3}{5}$ $\frac{6}{8}$
 $\frac{25}{30}$ $\frac{9}{15}$
 - a) $\frac{4}{15} + \frac{7}{15} = \frac{11}{15}$
b) $\frac{15}{24} - \frac{7}{24} = \frac{8}{24}$
c) $\frac{8}{16} + \frac{5}{16} = \frac{13}{16}$
 - $\frac{2}{12}, \frac{6}{12}, \frac{9}{12}, \frac{11}{12}$
 - a) <
c) =
 - $\frac{7}{100}, \frac{3}{10}, \frac{35}{100}, \frac{7}{10}, \frac{75}{100}$
- b) <

8. a) $\frac{9}{10} + \frac{13}{10} = \frac{23}{10}$
 b) $\frac{32}{100} - \frac{11}{100} = \frac{22}{100}$
 c) $\frac{25}{10} - \frac{5}{10} = 2$
9. $\frac{38}{100}$ $\frac{3}{100}$ $\frac{3}{4}$ 0.75 0.7 0.03 0.38
10. $\frac{68}{100}$ or $\frac{17}{25}$

Page 17

1. $\frac{1}{8}, \frac{14}{24}, \frac{8}{12}, \frac{3}{4}, \frac{5}{6}$
2. a) $>$ b) $=$
 c) $>$
3. $\frac{1}{3} = \frac{4}{12}, \frac{2}{3} = \frac{4}{6}, \frac{2}{8} = \frac{3}{12}, \frac{3}{4} = \frac{6}{8}$
4. $\frac{2}{100}, \frac{4}{100}, \frac{7}{100}, \frac{9}{100}$
5. Caro $\frac{18}{24}$
6. 0.4 $\frac{2}{8}$ $\frac{7}{10}$ 0.7 $\frac{1}{4}$ $\frac{4}{10}$ $\frac{4}{5}$ 0.8
7. $\frac{9}{8}$ or $1\frac{1}{8}$
8. $\frac{8}{10} + \frac{6}{10} = \frac{7}{5}$
9. $\frac{3}{12}$
10. a) $\frac{2}{12}$ b) $\frac{5}{20}$
 c) $\frac{6}{14}$

Pages 18–19

1. a) 5 quarters b) 5 thirds
 c) 12 fifths
2. a) $3\frac{1}{4}$ b) $2\frac{1}{2}$
 c) $3\frac{3}{4}$
3. a) $\frac{17}{7}$ b) $\frac{14}{5}$
 c) $\frac{11}{3}$
4. 21 out of 24 circles shaded
5. a) $\frac{11}{8}, \frac{15}{8}, \frac{19}{8}, \frac{25}{8}$ b) $1\frac{2}{8}$ or $1\frac{1}{4}, 1\frac{5}{8}, 2\frac{3}{8}, 2\frac{7}{8}$

Pages 20–21

1. a) $2\frac{3}{4}$ b) $2\frac{1}{4}$
 c) $3\frac{3}{4}$ d) $2\frac{3}{6}$ or $2\frac{1}{2}$
2. a) $\frac{9}{4}$ b) $\frac{11}{8}$
 c) $\frac{16}{6}$ d) $\frac{7}{3}$
3. a) $\frac{23}{6}$ b) $\frac{31}{4}$
 c) $\frac{37}{8}$
4. a) $2\frac{1}{5}$ b) $2\frac{1}{3}$
 c) $2\frac{2}{7}$
5. a) 2 b) $1\frac{4}{5}$
 c) $1\frac{5}{7}$

6. a) $\frac{15}{9}$ b) $\frac{12}{8}$
 c) $\frac{14}{5}$
7. Tabitha $\frac{15}{8}$

Pages 22–23

1. a) $\frac{6}{4}$ b) $\frac{8}{3}$
 c) $\frac{15}{6}$
2. a) $\frac{3}{5}$ b) $\frac{4}{7}$
 c) $\frac{5}{9}$
3. a) $\frac{3}{4}$ b) $\frac{4}{5}$
 c) $\frac{2}{3}$
4. a) $3\frac{1}{8}$ b) $2\frac{1}{4}$
 c) $3\frac{1}{5}$
5. a) $3\frac{3}{4}$ b) $4\frac{2}{3}$
 c) $3\frac{1}{3}$
6. $2\frac{2}{5}$ jugs

Pages 24–25

1. a) $3\frac{3}{4}$ b) $12\frac{1}{2}$
 c) $5\frac{1}{3}$
2. a) $6\frac{3}{4}$ b) $12\frac{4}{5}$
 c) $10\frac{5}{9}$
3. a) $13\frac{1}{2}$ b) $31\frac{1}{2}$
 c) $12\frac{1}{2}$
4. $11\frac{1}{2}$ m
5. 19 km
6. 18 apples, 27 oranges and 21 bananas

Page 26

1. a) $1\frac{3}{4}$ b) $3\frac{1}{4}$
 c) $2\frac{3}{9}$ or $2\frac{1}{3}$
2. $\frac{15}{14}, \frac{18}{14}, \frac{22}{14}, \frac{25}{14}$
3. a) $\frac{38}{7}$ b) $\frac{23}{8}$
 c) $\frac{19}{5}$
4. a) $5\frac{1}{3}$ b) $6\frac{3}{4}$
 c) $9\frac{6}{8}$ or $9\frac{3}{4}$
5. $\frac{24}{4}$ or 6 sandwiches
6. a) $\frac{18}{15}$ b) $\frac{17}{6}$
 c) $\frac{11}{4}$
7. $1\frac{3}{6}$ or $1\frac{1}{2}, 1\frac{5}{6}, 2\frac{2}{6}$ or $2\frac{1}{3}, 2\frac{4}{6}$ or $2\frac{2}{3}$
8. a) $2\frac{2}{5}$ b) $3\frac{3}{7}$
 c) $4\frac{2}{4}$ or $4\frac{1}{2}$
9. a) $3\frac{5}{6}$ b) $4\frac{1}{4}$
 c) $4\frac{2}{3}$
10. 7 bottles

Page 27

1. a) $3\frac{1}{2}$ b) $3\frac{3}{4}$
c) $2\frac{4}{6}$
2. a) $\frac{13}{5}$ b) $\frac{21}{8}$
c) $\frac{13}{4}$
3. a) $\frac{13}{7}$ b) $\frac{43}{8}$
c) $\frac{29}{6}$
4. a) $7\frac{1}{2}$ b) $6\frac{3}{4}$
c) $3\frac{3}{5}$
5. a) $1\frac{1}{5}$ b) $1\frac{4}{8}$ or $1\frac{1}{2}$
c) $3\frac{1}{3}$
6. a) $5\frac{1}{4}$ b) $12\frac{1}{2}$
c) $10\frac{2}{3}$
7. $11\frac{1}{5}$ pizzas
8. 3 full glasses
9. a) $1\frac{5}{12}$ b) $1\frac{2}{6}$ or $1\frac{1}{3}$
c) $1\frac{2}{4}$
10. a) $\frac{29}{12}$ b) $\frac{23}{8}$
c) $\frac{23}{10}$

Pages 28–29

1. a) 3 tenths b) 3 thousandths
c) 3 hundredths
2. a) 73 b) 0.084
c) 0.035
3. a) 73.5 b) 6710
c) 326
4. a) 0.286 b) 0.328
c) 0.495
5. a) 7645.2 b) 0.1236
c) 473.2
6. 2.315 kg
7. 0.235 m

Pages 30–31

1. a) 0.5 b) 0.461
c) 0.23
2. a) $\frac{174}{1000}$ b) $\frac{76}{100}$
c) $\frac{8}{10}$
3. a) 0.06 b) 0.041
c) 0.932
4. a) $\frac{170}{1000}$ b) $\frac{40}{100}$
c) $\frac{36}{10}$
5. a) 4.2 b) 0.346
c) 7.63

6. a) 2.45
b) Grid 1: 100 squares, Grid 2: 100 squares, Grid 3: 6 squares

Pages 32–33

1. a) > b) >
c) >
2. 3.34, 3.43, 3.45, 3.54, 4.53
3. 7.31, 7.13, 6.45, 6.25, 5.42
4. a) < b) <
c) <
5. 2.13, 2.3, 2.31, 3.12, 3.21
6. £0.05, £0.35, 53p, £5, 935p, £9.53
7. a) $1.230 < 1.231$
b) $6.47 < 6.57$
c) $47.573 > 47.572$

Pages 34–35

1. a) 6 b) 23
c) 146
2. a) 0.4 b) 0.9
c) 0.7
3. a) 7.9 b) 5.6
c) 3.3
4. a) 9 b) 7
c) 24
5. a) 7.3 b) 27.6
c) 99.1
6. a) 37.7 b) 79.0
c) 103.6
7. Any amount from 25p to 34p inclusive.
8. 32
9. 1739.0

Pages 36–37

1. a) $\frac{37}{100}$ b) $\frac{56}{100}$
c) $\frac{9}{10}$
2. a) 25% b) 33%
c) 89%
3. a) 0.7 b) 0.3
c) 0.5
4. a) 40% b) 80%
c) 20%
5. Geography $\frac{36}{40} = \frac{9}{10} = 90\%$
6. $0.125 = 12.5\%$

Pages 38–39

- | | | | | |
|----|----|-----|----|-----|
| 1. | a) | 74 | b) | 132 |
| | c) | 91 | | |
| 2. | a) | 12 | b) | 16 |
| | c) | 24 | | |
| 3. | a) | 42 | b) | 111 |
| | c) | 66 | | |
| 4. | a) | 12 | b) | 6 |
| | c) | 8.5 | | |
| 5. | a) | 16 | b) | 6 |
| | c) | 30 | | |
| 6. | a) | 56 | b) | 120 |
| | c) | 256 | | |

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1.
 - a) 70 thousand or 70 000
 - b) 5
2.
 - a) $25\% = 0.25 = \frac{25}{100}$ or $\frac{1}{4}$
 - b) $75\% = 0.75 = \frac{75}{100}$ or $\frac{3}{4}$
 - c) $50\% = 0.50 = \frac{1}{2}$

3.

Number	Rounded to the nearest	
	Whole number	One decimal place
7.56	8	7.6
123.81	124	123.8
11.29	11	11.3
89.45	89	89.5

- 4.** $\frac{4}{100}$, 0.045, $\frac{4}{10}$, 45%, 0.54, 4.5
- 5.** Rosa's class
- 6.** $\frac{45}{1000}$
- 7.** **a)** $\frac{76}{1000}$ **b)** $\frac{38}{100}$
 c) $\frac{9}{1000}$
- 8.** 36 beads
- 9.** **a)** 0.002 **b)** 0.56
 c) 0.345
- 10.** £48

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- Hannah has rounded her number to the nearest 10 000.
- | | | | |
|----|-----|----|---|
| a) | 3.8 | b) | 4 |
|----|-----|----|---|
- | | | | |
|----|----|----|----|
| a) | 12 | b) | 30 |
| c) | 24 | | |
- 4.385 km, 4.583 km, 4.853 km, 5.348 km, 5.483 km

- | | | | | |
|-----|----|--------|----|-------|
| 5. | a) | 0.25 | | |
| | b) | 0.48 | | |
| | c) | 0.05 | | |
| 6. | a) | 86% | b) | 60% |
| | c) | 80% | | |
| 7. | a) | 36 | b) | 72 |
| | c) | 45 | | |
| 8. | a) | 100th | b) | 10th |
| | c) | 1000th | | |
| 9. | a) | 0.005 | b) | 0.136 |
| | c) | 0.25 | | |
| 10. | a) | 40% | b) | 30% |
| | c) | 48% | | |

Pages 42–43

- 1.** 4
- 2.** a) $\frac{2}{4}$ b) $\frac{2}{3}$ c) $\frac{5}{6}$
d) $\frac{35}{100}$ e) $\frac{7}{1000}$ f) $\frac{45}{1000}$
- 3.** Jo: 78% > 75%
- 4.** 0.09m
- 5.** Lea $2\frac{3}{5} = 2\frac{6}{10}$
- 6.** 8.45 km or 8.450 km
- 7.** 30 apples
- 8.** 12 bananas
- 9.** £0.05, 56p, £0.65, £5.56, 565p
- 10.** 0.07, $\frac{7}{10}$, 72%, 0.75, $\frac{77}{100}$, 1.007
- 11.** £1.37
- 12.** 210
- 13.** a) 0.5 b) 0.2
c) 0.6
- 14.** a) $\frac{14}{12} = \frac{7}{6} = 1\frac{1}{6}$
b) $\frac{10}{8} = \frac{7}{4} = 1\frac{3}{4}$
c) $\frac{8}{10} = \frac{4}{5}$
- 15.** a) $3\frac{9}{10}$
b) $4\frac{9}{12} = 4\frac{3}{4}$
c) $4\frac{5}{8}$
- 16.** $\frac{3}{1000}, \frac{3}{100}, \frac{33}{1000}, \frac{33}{100}, \frac{333}{1000}$
- 17.** £3.77
- 18.** $1\frac{4}{5}$
- 19.** 25 g, 250 g, 0.255 kg, 0.5 kg, 520 g, 2.5 kg
- 20.** a) 1.1
b) 0.85
c) 1.82