Answers - Fractions and decimals: tenths and hundredths

Year: Year 4

Answer to Question 1

a. 23 of the 100 squares are shaded: $\mathbf{^{23}/_{100} = 0.23}$ (2 tenths and 3 hundredths).
b. 40 of the 100 squares are shaded: $\mathbf{^{40}/_{100} = 0.40 = 0.4}$. This is the same as $^{4}/_{10}$.
c. 7 of the 100 squares are shaded: $\mathbf{^{7}/_{100} = 0.07}$ (0 tenths and 7 hundredths).

Answer to Question 2

Fraction	Decimal
$^{3}/_{10}$	**0.3**
$^{9}/_{10}$	**0.9**
$^{47}/_{100}$	**0.47**
$\mathbf{^{8}/_{10}}$	0.8
$\mathbf{^{5}/_{100}}$	0.05
$^{12}/_{100}$	**0.12**

0.8 means 8 tenths, so it is $^{8}/_{10}$ (or $^{80}/_{100}$). 0.05 means 0 tenths and 5 hundredths, so it is $^{5}/_{100}$.

Answer to Question 3

a. The 7 is in the tenths column: **7 tenths = 0.7**.
b. The 2 is in the tenths column: **2 tenths = 0.2**.
c. The 8 is in the ones column: **8**.
d. The 9 is in the tenths column: **9 tenths = 0.9**.
e. The 4 is in the hundredths column: **4 hundredths = 0.04**.

Answer to Question 4

a. Write with two places: 0.70, 0.07, 0.17, 0.71. Order: **0.07, 0.17, 0.7, 0.71**.
b. Compare whole numbers: 0.55 is smallest; 1.05 and 1.5 both start with 1 and 1.05 has 0 tenths; 5.1 is largest. Order: **0.55, 1.05, 1.5, 5.1**.
c. 0.45 < 0.50, so **0.45 < 0.5**. 3.2 = 3.20, which is more than 3.19, so **3.2 > 3.19**.

Answer to Question 5

a. The dot is 7 steps after 2, and each step is 0.1, so it is at **2.7**.
b. The boxes are at 2.3, 2.5, 2.9 and 3.0: **2.3, 2.5, 2.9, 3** (3.0 = 3).
c. Halfway is **2.5**, 5 tenths from 2.

Answer to Question 6

a. 9 ÷ 10 = **0.9**, which rounds to **1**.
b. 74 ÷ 10 = **7.4**, which rounds to **7**.
c. 5 ÷ 100 = **0.05**, which rounds to **0**.
d. 386 ÷ 100 = **3.86**, which rounds to **4**.
e. 250 ÷ 100 = **2.5**, which rounds to **3**.

Answer to Question 7

a. $\frac{4}{10}$ = **0.4**.
b. 4 + 2 + 3 = 9 squares out of 10, so $\frac{9}{10}$ **= 0.9**.
c. 10 − 9 = 1 square, so $\frac{1}{10}$ **= 0.1** is left.
d. Yes, she is **right**: 0.9 + 0.1 = 1 whole bar.

Answer to Question 8

a. £12.45 is 12 pounds and 45 pence: 12 + 0.4 + 0.05.
b. £3.20 = **320 pence**, because £1 = 100 p and £3.20 = 3 × 100 + 20.
c. 3.20 + 4.75 = **£7.95**.
d. 12.45 − 7.95 = **£4.50**.

Answer to Question 9

a. Compare 2.45, 2.54, 2.40 and 2.05: **Ben** with 2.54 m.
b. **2.54, 2.45, 2.4, 2.05**.
c. 2.45 → 2; 2.54 → 3; 2.4 → 2; 2.05 → 2.
d. 2.54 − 2.40 = **0.14 m = 14 cm**.

Answer to Question 10

a. 0.5 kg = **500 g**; 1.25 kg = **1 250 g**; 0.75 kg = **750 g** (1 kg = 1 000 g).
b. 0.5 + 1.25 + 0.75 = **2.5 kg**.
c. Grapes and plums: 0.5 + 0.75 = 1.25 kg. The apples weigh 1.25 kg too. They are

equal.
d. 1.25 × £2 = £2.50. The apples cost **£2.50**.

Answer to Question 11

a. 0.2 litres is 2 tenths, so $^{2}/_{10}$ **of a litre**.
b. 2 ÷ 0.2: there are 10 tenths in each litre, so 20 tenths in 2 litres. 20 ÷ 2 = **10 glasses**.
c. 1.5 litres = 15 tenths. 15 ÷ 2 = 7 remainder 1, so **7 glasses** with 0.1 litre (1 tenth) left over.
d. 2 + 1.5 = **3.5 litres**.

Answer to Question 12

a. 6.8 − 4.3 = **2.5 cm**.
b. Growth: Week 2 is 2.5 cm; Week 3: 10.2 − 6.8 = 3.4 cm; Week 4: 15.5 − 10.2 = 5.3 cm. The biggest growth was in **Week 4** (5.3 cm).
c. 4.3 → 4; 6.8 → 7; 10.2 → 10; 15.5 → 16.
d. 1 cm = 10 mm, so 15.5 cm = **155 mm**.

Answer to Question 13

a. Compare 15.30, 14.85, 15.03 and 14.90: **Max** was fastest with 14.85 s.
b. **14.85, 14.9, 15.03, 15.3**.
c. 15.3 → 15; 14.85 → 15; 15.03 → 15; 14.9 → 15.
d. The 85 is hundredths in the second place, not tenths. 14.85 is 14 ones, 8 tenths and 5 hundredths: 14 + 0.8 + 0.05.

Answer to Question 14

a. 0.25 = $^{25}/_{100}$; 0.4 = $^{40}/_{100}$; 0.15 = $^{15}/_{100}$.
b. 25 + 40 + 15 = 80, so they ate $^{80}/_{100}$ **= 0.8** of the cake.
c. 100 − 80 = 20, so $^{20}/_{100}$ **= 0.2** is left.
d. Bea ($^{40}/_{100}$) ate the most and Chen ($^{15}/_{100}$) ate the least.

Answer to Question 15

a. Compare £7.85, £8.05 and £7.60: **Ben** has the most. Order: **£8.05, £7.85, £7.60**.
b. 5.20 − 2.50 = **£2.70**.

c. £3.05 − £2.00 = **£1.05** = **105 p**.
d. 7.85 + 8.05 + 7.60 = **£23.50**, which rounds to **£24** (the tenths digit is 5).
e. Ravi is **right**: 0.6 = 0.60, because 6 tenths is the same as 60 hundredths. But money should always be written with two decimal places, £7.60.

Answer to Question 16

a. 1.35 m = **135 cm**; 2.4 m = **240 cm**; 0.85 m = **85 cm**.
b. 1.35 + 2.40 + 0.85 = **4.6 m**.
c. 4.6 × £2 = **£9.20**.
d. 5 − 4.6 = **0.4 m** (40 cm) more.
e. Red + yellow = 1.35 + 0.85 = 2.20 m. Blue is 2.40 m, so she is **right**: blue is 0.2 m (20 cm) longer.

Answer to Question 17

a. Compare 24.60, 27.15, 24.06 and 26.90. **Cleo** is fastest (24.06). Order: **24.06, 24.6, 26.9, 27.15**.
b. 24.6 → 25; 27.15 → 27; 24.06 → 24; 26.9 → 27.
c. 10 × 25 = **250 m**.
d. Amy: 8 × 25 = 200 m. Ben: 6 × 25 = 150 m. Difference: **50 m**.
e. 27.15 − 26.90 = **0.25 s**, a quarter of a second, so the coach is right.

Answer to Question 18

a. 0.35 + 0.4 + 0.6 + 0.25 = **1.6 kg**.
b. 1.6 × 2 = **3.2 kg**.
c. Apples (0.6 kg) are the heaviest and bananas (0.25 kg) are the lightest.
d. 3.2 kg is more than 3 kg, so two recipes **fill the bowl** with 0.2 kg to spare.
e. Two recipes use 0.4 × 2 = 0.8 kg of grapes. 1 − 0.8 = **0.2 kg** left.

Answer to Question 19

a. Blue: $\frac{36}{100}$ **= 0.36**; yellow: $\frac{24}{100}$ **= 0.24**; red: $\frac{15}{100}$ **= 0.15**.
b. 36 + 24 + 15 = 75, so $\frac{75}{100}$ **= 0.75** is coloured.
c. 100 − 75 = **25 white squares**, which is **0.25**.
d. 0.15 is less than 0.2 (0.20), so she is **wrong**.
e. 0.9 = $\frac{90}{100}$, so 90 squares are coloured. 90 − 75 = **15 green squares**.

Answer to Question 20

a. The number is 3.ab with a = 2b. The digits are 3 + a + b = 9, so 3b = 6 and b = 2, a = 4. The number is **3.42**. Check: 3 + 4 + 2 = 9 and 4 = 2 × 2. (There is only one answer.)
b. The number is 0.5x with x as the hundredths digit. The tenths digit is 5, so the hundredths digit is 5 + 3 = 8. The number is **0.58**.
c. For example 0.41, 0.45 and 0.49 (there are many others). The closest to 0.5 is **0.49**, which is 1 hundredth less than 0.5.