Answers - Fractions: thirds, quarters and halves

Year: Year 2

Answer to Question 1

a. 1 of 2 equal parts: $\frac{1}{2}$.
b. 1 of 3 equal parts: $\frac{1}{3}$.
c. 3 of 4 equal parts: $\frac{3}{4}$.
d. 1 of 4 equal parts: $\frac{1}{4}$.

Answer to Question 2

a. Only cake A shows halves because its two parts are equal. Cake B has parts of different sizes.
b. Cake C is cut into **4 equal parts**, so each part is a quarter.
c. The three parts of cake D are not the same size, so they are not **thirds**.

Answer to Question 3

a. Half means 2 equal groups. 4 + 4 = 8, so half of 8 is **4**.
b. 7 + 7 = 14, so half of 14 is **7**.
c. 10 + 10 = 20, so half of 20 is **10**.
d. Halve the tens and the ones separately: half of 30 is 15 and half of 6 is 3. 15 + 3 = **18**. Check: 18 + 18 = 36.
e. Half of 50: half of 40 is 20 and half of 10 is 5, so the answer is **25**. Check: 25 + 25 = 50.

Answer to Question 4

a. 12 ÷ 4 = **3**.
b. 20 ÷ 4 = **5**.
c. 9 ÷ 3 = **3**.
d. 18 ÷ 3 = **6**.
e. 30 ÷ 3 = **10**.
f. 40 ÷ 4 = **10**.

Answer to Question 5

a. One half is the same as **2** quarters.
b. Two quarters is the same as 1 half. The missing number is **2**.
c. 2 halves make a whole, so the missing number is **2**.
d. 4 quarters make a whole, so the missing number is **4**.

Answer to Question 6

a. A quarter of 8 is 2. 3 × 2 = **6**.
b. A third of 6 is 2. 2 × 2 = **4**.
c. A quarter of 16 is 4. 3 × 4 = **12**.
d. A third of 21 is 7. 2 × 7 = **14**.
e. A quarter of 12 is 3. 2 × 3 = **6**. This is the same as half of 12.

Answer to Question 7

a. 2 of 8 slices is $\frac{2}{8}$, which is $\frac{1}{4}$ of the pizza.
b. A quarter of 8 is 8 ÷ 4 = **2 slices**.
c. 8 − 2 − 2 = 4 slices are left. 4 ÷ 2 = **2 slices each**.
d. Mia eats 2 of 8 slices, which is $\frac{1}{4}$ of the pizza.

Answer to Question 8

a. Half of 20 is 20 ÷ 2 = **10p**.
b. A quarter of 20 is 20 ÷ 4 = **5p**.
c. A quarter of 20 is **5p**.
d. 10 + 5 + 5 = **20p**. All of the pocket money is shared out. Half plus a quarter plus a quarter makes one whole.

Answer to Question 9

a. 12 ÷ 3 = **4 scoops**.
b. 8 ÷ 4 = **2 spoons**.
c. 10 ÷ 2 = **5 raisins**.
d. She uses 5 raisins and 4 oats scoops. 5 is bigger than 4, so she uses **more** raisins than oats scoops. Mum is not right.

Answer to Question 10

a. 12 ÷ 3 = **4 squares**.
b. 12 ÷ 4 = **3 squares**.
c. 12 − 4 − 3 = **5 squares**.
d. Half of 12 is 6. The fridge has 5 squares and 5 is smaller than 6, so it is **less than half**.

Answer to Question 11

a. 24 ÷ 3 = **8 children**.
b. 24 ÷ 4 = **6 children**.
c. 24 − 8 − 6 = **10 children**.
d. 6 × 2 = **12 badges**.

Answer to Question 12

a. 16 ÷ 2 = **8 tulips**.
b. 16 ÷ 4 = **4 daffodils**.
c. 16 − 8 − 4 = **4 roses**.
d. 4 − 2 = **2 roses**. Half of the roses are left.

Answer to Question 13

a. An hour is 60 minutes. A quarter means 4 equal parts, and 15 + 15 + 15 + 15 = 60. So a quarter of an hour is **15 minutes**.
b. Half means 2 equal parts: 30 + 30 = 60, so half an hour is **30 minutes**.
c. A third means 3 equal parts of 60 minutes: 20 + 20 + 20 = 60. The class watch **20 minutes** of the film.
d. Add break and lunch: 15 + 30 = **45 minutes**. That is the same as three quarters of an hour.

Answer to Question 14

a. 20 ÷ 4 = **5 cm** each.
b. 3 of the 4 pieces is $\frac{3}{4}$ of the ribbon.
c. 3 × 5 = **15 cm**.
d. 20 − 15 = **5 cm**, which is one quarter.

Answer to Question 15

a. 36 ÷ 3 = **12 sweets**.
b. 36 − 12 = **24 sweets**.

c. A quarter of 24 is 24 ÷ 4 = **6 sweets**. 24 − 6 = **18 sweets** left.
d. Half of 18 is 18 ÷ 2 = **9 sweets**.
e. 18 − 9 = **9 sweets** left. Half of 36 is 18, and 36 − 9 = 27 sweets have gone. 27 is more than 18, so **yes**, the head teacher is right.

Answer to Question 16

a. 24 ÷ 2 = **12 children**.
b. 24 ÷ 4 = **6 children**.
c. 24 − 12 − 6 = **6 children**.
d. A third of 6 is 6 ÷ 3 = **2 girls**.
e. 12 football players make 3 groups of 4. 3 × 3 = **9 footballs**.

Answer to Question 17

a. 24 ÷ 4 = **6 panels**.
b. 24 ÷ 2 = **12 panels**.
c. 24 − 6 − 12 = **6 panels**.
d. Half of 6 is 6 ÷ 2 = **3 panels**.
e. 3 of the 6 Sunday panels are the different colour. That is ½ of the Sunday panels.

Answer to Question 18

a. 12 ÷ 3 = **4 pieces**.
b. 12 ÷ 4 = **3 pieces**.
c. 12 − 4 − 3 − 2 = **3 pieces**.
d. One third, written ⅓.
e. 4 + 3 + 2 = 9 pieces have gone. Half of 12 is 6 and 9 is more than 6. **No**, more than half has gone. Nine twelfths have gone.

Answer to Question 19

a. 24 ÷ 3 = **8 marbles**.
b. 24 − 8 = **16 marbles**.
c. Half of 16 is 16 ÷ 2 = **8 marbles**.
d. 8 + 5 = **13 marbles**.
e. 24 − 13 = 11. Jamal has **11 fewer** marbles than at the start.

Answer to Question 20

a. A quarter is one of 4 equal parts. 4 × 6 = **24**. Check: 24 ÷ 4 = 6.

b. Two thirds is 8, so one third is 8 ÷ 2 = 4. The whole is 3 × 4 = **12**. Check: a third of 12 is 4 and two thirds is 8.
c. Half of 10 is 5. A quarter of 24 is 6. 6 is bigger than 5, so **a quarter of 24 is bigger**.
d. No. Two quarters is equivalent to one half, so they are the **same size**. Both fill half of the pizza.