



KS2.M-Y6N4 Fractions, Decimals and Percentages

Calculators not allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

- 1** Write $\frac{3}{4}$ as a decimal.

(1)

- 2** Write 0.6 as a fraction in its simplest form.

(2)

- 3** Write 45% as a decimal and as a fraction (simplify the fraction).

(2)

- 4** A packet of seeds costs 80 pence. During a sale the price is reduced by 25%. What is the sale price in pence?

(2)

- 5** Sana ate $\frac{2}{5}$ of a cake. What percentage of the cake did she eat? Show your working.

(2)

6 Complete the missing value: $0.875 = \frac{?}{8} = ?\%$

(2)

7 A school charity made 120 pounds. They donate 15% to a food bank. How much do they donate? Give your answer in pounds and pence.

(2)

8 Convert $\frac{7}{20}$ to a decimal and to a percentage.

(2)

9 Fill the missing number: 250% of $?$ = 5. What is the value of $?$

(2)

10 A toy costs 18.50. VAT at 20% is added. What is the total price including VAT? Give your answer in pounds and pence.

(2)

11 A recipe needs 2.5 kg of flour. Mia uses 60% of the flour for the first batch. How many kilograms of flour are left? Show your working.

(3)

12 Explain which is larger and why: $\frac{4}{9}$ or 44%. Show your reasoning.

(3)

13 A shirt is reduced by 30% and now costs 31.50. What was the original price? Show your method.

(2)

14 Write these in order from smallest to largest: 0.205, $\frac{1}{5}$, 20%

(2)

15 Ben says that $33\frac{1}{3}\%$ is the same as 0.33. Is he correct? Explain your answer.

(2)

16 A school book has 240 pages. A pupil has read 37.5% of the book. How many pages has the pupil read? Give your answer as a whole number.

(2)

17 Convert 0.045 to a percentage and to a fraction in its simplest form.

(1)

- 18** A class has 30 pupils. 40% are girls. After 3 more girls join the class, what percentage of the class are girls? Give your answer to one decimal place.

(3)

Mark scheme · KS2.M-Y6N4 Fractions, Decimals and Percentages

Question 1

- **B1** 0.75 cao
- Answer: **0.75**

Question 2

- **M1** $0.6 = 6/10$ or equivalent shown
- **B1** $3/5$ cao
- Answer: **$3/5$**

Question 3

- **B1** 0.45 decimal cao
- **B1** $9/20$ fraction cao
- Answer: **0.45, $9/20$**

Question 4

- **M1** 25% of 80 calculated or $80 \times 0.25 = 20$ seen
- **B1** 60 pence cao
- Answer: **60**

Question 5

- **M1** $2/5$ converted to a decimal or fraction of 100, e.g. $2/5 = 40/100$ or 0.4
- **B1** 40% cao
- Answer: **40%**

Question 6

- **M1** 0.875 expressed as fraction with denominator 8: $7/8$ seen
- **B1** 87.5% cao
- Answer: **$7/8$, 87.5%**

Question 7

- **M1** 15% of 120 found ($120 \times 0.15 = 18$) or method shown
- **B1** 18.00 or 18 pounds cao
- Answer: **18.00**

Question 8

- **B1** 0.35 decimal cao
- **B1** 35% cao
- Answer: **0.35, 35%**

Question 9

- **M1** 250% recognised as 2.5 and equation $2.5 \times ? = 5$ or method to divide 5 by 2.5
- **B1** 2 cao
- Answer: **2**

Question 10

- **M1** 20% of 18.50 found ($18.50 \times 0.20 = 3.70$) or method shown
- **B1** 22.20 cao
- Answer: **22.20**

Question 11

- **M1** 60% of 2.5 found or $2.5 \times 0.6 = 1.5$ shown
- **M1** Subtraction of used amount from total ($2.5 - 1.5$) or equivalent
- **B1** 1.0 kg left **cao**
- **Answer: 1.0**

Question 12

- **M1** One correct conversion: $4/9$ to decimal (0.444...) or to percentage (44.4...%) or 44% to fraction $11/25$
- **M1** Comparison shown using converted forms, e.g. $44.4...\% > 44\%$ or $0.444... > 0.44$
- **B1** Correct conclusion with reason: $4/9$ is larger because $4/9 = 44.4...\% > 44\%$ **cao**
- **Answer: $4/9$ is larger; $4/9 = 44.4...\%$ which is greater than 44%**

Question 13

- **M1** Recognise that 31.50 is 70% of original or method showing division by 0.7
- **B1** 45.00 **cao**
- **Answer: 45.00**

Question 14

- **M1** Conversion or comparison work seen ($1/5 = 0.2 = 20\%$)
- **B1** $1/5$, 20%, 0.205 **cao** ($1/5$ and 20% are both equal to 0.2, so either order between them is accepted)
- **Answer: $1/5$, 20%, 0.205**

Question 15

- **M1** Identify $33\frac{1}{3}\%$ as $1/3$ or 0.333... and explain decimal repeats
- **B1** State Ben is not correct: $33\frac{1}{3}\% = 0.333...$ not 0.33 **cao**
- **Answer: Not correct; $33\frac{1}{3}\% = 1/3 = 0.333...$ which is not equal to 0.33**

Question 16

- **M1** 37.5% of 240 calculated or method shown ($240 \times 0.375 = 90$)
- **B1** 90 pages **cao**
- **Answer: 90**

Question 17

- **B1** 4.5% and $9/200$ **cao**
- **Answer: 4.5%, $9/200$**

Question 18

- **M1** Find initial number of girls: 40% of 30 = 12 or method shown
- **M1** Add 3 to girls and find new percentage: $(15/33) \times 100$ or equivalent method
- **B1** 45.5% **cao**
- **Answer: 45.5%**