



KS2.M-Y3N4 Introduction to Fractions

Calculators not allowed · about 45 minutes

Total Marks

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Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

- 1** Write the fraction for the shaded part of each shape, giving each answer in its simplest form. Shape A is a circle with 1 of 4 equal parts shaded. Shape B is a rectangle with 2 of 6 equal parts shaded.

(a) Fraction shaded in Shape A (1)

(b) Fraction shaded in Shape B, given in its simplest form (1)

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- 2** Write down the unit fraction for one equal part of a whole split into five equal pieces.

(1)

-
- 3** Which fraction is the same as two thirds? Circle the correct answer: $\frac{4}{6}$, $\frac{3}{4}$, $\frac{1}{3}$. Explain why you chose that fraction in one sentence.

☐ $\frac{4}{6}$

☐ $\frac{3}{4}$

☐ $\frac{1}{3}$

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- 4** Priya colours 3 equal parts out of 8 on a paper strip. Write the fraction that Priya coloured.

(1)

- 5** A cake is cut into 6 equal slices. Noah eats 2 slices and Erin eats 1 slice. What fraction of the cake is left?

(2)

- 6** Write the fraction shown by shading one of the three equal boxes: one box shaded out of three.

(1)

- 7** A ribbon is 9 cm long and divided into 3 equal parts. What is the length of one part as a fraction and in centimetres?

(2)

- 8** Shade $\frac{2}{4}$ of a rectangle. Then write the fraction in simplest form.

(1)

- 9** There are 12 apples. A basket holds $\frac{3}{12}$ of them. How many apples are in the basket?

(2)

- 10** Write the fraction that shows the shaded part: 4 shaded squares out of 10 equal squares.

(1)

11 Explain in one or two sentences why $\frac{2}{4}$ is the same as $\frac{1}{2}$. Use words or a diagram.

(2)

12 A pizza is cut into 8 equal slices. Kwame eats 5 slices. What fraction shows the part he ate? Give the fraction and its simplest form.

(2)

13 Sara has 10 counters. She gives $\frac{2}{10}$ of them to Oliwia. How many counters does Oliwia get? Show your working.

(2)

14 Draw a pie split into 4 equal pieces. Shade $\frac{1}{4}$ of the pie and write the fraction.

(1)

15 There are 15 stickers. $\frac{3}{15}$ are red. How many stickers are red? Give the fraction in simplest form too.

(2)

16 Explain which fraction is larger: $\frac{1}{4}$ or $\frac{1}{3}$. Write a short explanation.

(2)

- 17** A chocolate bar is split into 12 equal squares. Lina eats 6 squares. What fraction of the bar did she eat? Give the fraction in simplest form.

(2)

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- 18** Maya paints 4 out of 20 wooden blocks blue. What fraction are painted blue? Give the fraction in simplest form and explain why you simplified it.

(2)

Mark scheme · KS2.M-Y3N4 Introduction to Fractions

Question 1

- (a) **B1** $\frac{1}{4}$ cao
- (a) Answer: **$\frac{1}{4}$**
- (b) **B1** $\frac{1}{3}$ cao after simplifying $\frac{2}{6}$
- (b) Answer: **$\frac{1}{3}$**

Question 2

- **B1** $\frac{1}{5}$ cao
- Answer: **$\frac{1}{5}$**

Question 3

- **B1** $\frac{4}{6}$ circled cao
- **B1** simple explanation, e.g. $\frac{4}{6} = \frac{2}{3}$ when both top and bottom are divided by 2 oe
- Answer: **$\frac{4}{6}$**

Question 4

- **B1** $\frac{3}{8}$ cao
- Answer: **$\frac{3}{8}$**

Question 5

- **M1** $\frac{3}{6}$ calculation seen or equivalent ($6 - (2+1) = 3$ slices left) seen
- **B1** $\frac{1}{2}$ cao after simplifying $\frac{3}{6}$
- Answer: **$\frac{1}{2}$**

Question 6

- **B1** $\frac{1}{3}$ cao
- Answer: **$\frac{1}{3}$**

Question 7

- **M1** $9 \div 3 = 3$ or shows division into 3 equal parts
- **B1** $\frac{1}{3}$ and 3 cm cao
- Answer: **$\frac{1}{3}$ and 3 cm**

Question 8

- **B1** $\frac{1}{2}$ cao after correct shading of 2 of 4 equal parts
- Answer: **$\frac{1}{2}$**

Question 9

- **M1** $12 \div 12 \times 3$ or $12 \times (\frac{3}{12})$ seen
- **B1** 3 cao
- Answer: **3**

Question 10

- **B1** $\frac{4}{10}$ cao
- Answer: **$\frac{4}{10}$**

Question 11

- **B1** statement that $\frac{2}{4}$ equals $\frac{1}{2}$ by halving or showing both are half of a whole (partial explanation)
- **B1** clear explanation or diagram showing 2 of 4 parts equal half or simplifying by dividing numerator and denominator by 2 oe
- Answer: **$\frac{2}{4}$ is the same as $\frac{1}{2}$ because dividing top and bottom by 2 gives $\frac{1}{2}$; both represent half the whole**

Question 12

- **B1** $\frac{5}{8}$ cao
- **B1** $\frac{5}{8}$ is already in simplest form cao
- Answer: **$\frac{5}{8}$**

Question 13

- **M1** $10 \times (\frac{2}{10})$ or $10 \div 10 \times 2$ shown
- **B1** 2 cao
- Answer: **2**

Question 14

- **B1** Correct shading of 1 of 4 equal parts and $\frac{1}{4}$ written cao
- Answer: **$\frac{1}{4}$**

Question 15

- **M1** $15 \times (\frac{3}{15})$ or $15 \div 15 \times 3$ seen
- **B1** 3 stickers and simplest form $\frac{1}{5}$ given cao
- Answer: **3 and $\frac{1}{5}$**

Question 16

- **B1** identifies $\frac{1}{3}$ as larger or $\frac{1}{4}$ as smaller
- **B1** reason given, e.g. $\frac{1}{3}$ is larger because the whole is split into fewer pieces so each piece is bigger oe
- Answer: **$\frac{1}{3}$ is larger because the whole is split into 3 parts so each part is bigger than a quarter**

Question 17

- **M1** $\frac{6}{12}$ seen or calculation $12 \div 12 \times 6$
- **B1** $\frac{1}{2}$ cao after simplifying $\frac{6}{12}$
- Answer: **$\frac{1}{2}$**

Question 18

- **B1** $\frac{4}{20}$ cao
- **B1** simplest form $\frac{1}{5}$ and explanation, e.g. dividing numerator and denominator by 4 oe
- Answer: **$\frac{1}{5}$**