

11+ Maths Practice Paper

Year 4 · Foundation

Lesson 3.1: Equivalent fractions and simplifying

Read this with your child:

1. This paper has **20 questions** in two parts. Work through them in order. The questions get harder as you go.
2. **Part 1** is multiple choice. Choose **one** answer, A, B, C, D or E, and mark it on the separate answer sheet by drawing a firm line through the box next to its letter. If you change your mind, rub the line out completely and mark your new answer.
3. **Part 2** asks you to write your answer. Write it in the boxes on the answer sheet, **one digit in each box**, starting from the left.
4. If a question is hard, leave it and come back to it at the end.
5. You may use rough paper for working out. You may **not** use a calculator.
6. Suggested time: **25 minutes**.

The answer sheet is after the questions. The answers, with a short explanation of each, are at the back for a parent to mark with.

These are original practice questions written by Elite Learners in the style of 11+ entrance tests. They are not produced by, or connected with, GL Assessment or Cambridge University Press & Assessment (CEM).

Example

A cake is cut into 8 equal slices. 3 slices are eaten.

What fraction of the cake is eaten?

A $\frac{1}{3}$

B $\frac{3}{8}$

C $\frac{5}{8}$

D $\frac{3}{5}$

E $\frac{1}{8}$

Answer: B 3 of the 8 equal slices are eaten. The top number is the slices eaten and the bottom number is all the slices: $\frac{3}{8}$.

The answer, B, has already been marked on your answer sheet.

Now turn over and start Part 1.

Part 1: Multiple choice

1

Which fraction is equal to $\frac{1}{2}$?

A $\frac{2}{3}$

B $\frac{3}{5}$

C $\frac{4}{8}$

D $\frac{1}{4}$

E $\frac{5}{8}$

2

In the fraction $\frac{5}{9}$, which number is the denominator?

A 5

B 9

C 14

D 4

E 45

3

A pizza is cut into 6 equal slices. Tom eats 1 slice.

What fraction of the pizza is left?

A $\frac{1}{6}$

B $\frac{4}{6}$

C $\frac{5}{7}$

D $\frac{1}{5}$

E $\frac{5}{6}$

4

Which fraction is equal to $\frac{1}{4}$?

A $\frac{2}{8}$

B $\frac{2}{4}$

C $\frac{1}{8}$

D $\frac{3}{4}$

E $\frac{4}{8}$

5

What is the missing number?

$$\frac{1}{3} = \frac{\boxed{?}}{6}$$

A 1

B 3

C 4

D 2

E 6

6

Which fraction is not equal to $\frac{1}{2}$?

A $\frac{2}{4}$

B $\frac{3}{6}$

C $\frac{4}{6}$

D $\frac{5}{10}$

E $\frac{6}{12}$

7

What is the missing number?

$$\frac{3}{4} = \frac{\boxed{?}}{8}$$

A 6

B 7

C 3

D 4

E 5

8

What is the missing number?

$$\frac{2}{5} = \frac{\boxed{?}}{10}$$

A 2

B 5

C 7

D 8

E 4

9

Write this fraction in its simplest form.

$$\frac{6}{8}$$

A $\frac{2}{4}$ B $\frac{3}{4}$ C $\frac{3}{8}$ D $\frac{5}{7}$ E $\frac{1}{2}$

10

Which fraction is already in its simplest form?

A $\frac{2}{4}$ B $\frac{3}{9}$ C $\frac{4}{10}$ D $\frac{5}{8}$ E $\frac{6}{9}$

11

A bag has 10 sweets. 5 of them are red.

What fraction of the sweets are red, in its simplest form?

A $\frac{1}{2}$ B $\frac{5}{10}$ C $\frac{1}{5}$ D $\frac{2}{5}$ E $\frac{1}{10}$

12

What is the missing number?

$$\frac{1}{2} = \frac{5}{\boxed{?}}$$

A 5

B 6

C 10

D 12

E 7

13

Which fraction is equal to $\frac{2}{3}$?A $\frac{3}{4}$ B $\frac{4}{5}$ C $\frac{2}{6}$ D $\frac{5}{6}$ E $\frac{4}{6}$

14

How many eighths are the same as $\frac{3}{4}$?

A 3

B 6

C 4

D 5

E 8

15

Write this fraction in its simplest form.

$$\frac{10}{15}$$

A $\frac{5}{10}$ B $\frac{1}{3}$ C $\frac{3}{5}$ D $\frac{2}{3}$ E $\frac{9}{14}$

16

Mia shades 8 of the 12 squares on a grid.

What fraction of the grid is shaded, in its simplest form?

A $\frac{2}{3}$ B $\frac{8}{12}$ C $\frac{3}{4}$ D $\frac{1}{3}$ E $\frac{1}{4}$

Part 2: Write your answer

17

What is the missing number?

$$\frac{1}{4} = \frac{\boxed{?}}{12}$$

Write your answer in the boxes on the answer sheet, one digit in each box.

18

What is the missing number?

$$\frac{2}{3} = \frac{\boxed{?}}{9}$$

Write your answer in the boxes on the answer sheet, one digit in each box.

19

What is the missing number?

$$\frac{3}{5} = \frac{\boxed{?}}{20}$$

Write your answer in the boxes on the answer sheet, one digit in each box.

20

What is the missing number?

$$\frac{12}{16} = \frac{\boxed{?}}{4}$$

Write your answer in the boxes on the answer sheet, one digit in each box.

Answer sheet

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Name

Draw a firm line through the box next to your answer, like the example.

Part 1: Multiple choice

Ex	A ☐	B ☒	C ☐	D ☐	E ☐
1	A ☐	B ☐	C ☐	D ☐	E ☐
2	A ☐	B ☐	C ☐	D ☐	E ☐
3	A ☐	B ☐	C ☐	D ☐	E ☐
4	A ☐	B ☐	C ☐	D ☐	E ☐
5	A ☐	B ☐	C ☐	D ☐	E ☐
6	A ☐	B ☐	C ☐	D ☐	E ☐
7	A ☐	B ☐	C ☐	D ☐	E ☐
8	A ☐	B ☐	C ☐	D ☐	E ☐
9	A ☐	B ☐	C ☐	D ☐	E ☐
10	A ☐	B ☐	C ☐	D ☐	E ☐
11	A ☐	B ☐	C ☐	D ☐	E ☐
12	A ☐	B ☐	C ☐	D ☐	E ☐
13	A ☐	B ☐	C ☐	D ☐	E ☐
14	A ☐	B ☐	C ☐	D ☐	E ☐
15	A ☐	B ☐	C ☐	D ☐	E ☐
16	A ☐	B ☐	C ☐	D ☐	E ☐

Part 2: Write your answer, one digit in each box

17	
18	
19	
20	

Answers

For a parent to mark with. One mark for each question: the paper is out of 20. Talk through any your child got wrong, using the explanation.

Q	Answer	How to get it
1	C $\frac{4}{8}$	4 is half of 8, so $\frac{4}{8} = \frac{1}{2}$. Multiply the top and bottom of $\frac{1}{2}$ by 4.
2	B 9	The denominator is the bottom number: 9. It tells you how many equal parts make the whole.
3	E $\frac{5}{6}$	$6 - 1 = 5$ slices are left, out of 6 equal slices: $\frac{5}{6}$.
4	A $\frac{2}{8}$	Multiply the top and bottom of $\frac{1}{4}$ by 2: $\frac{2}{8}$.
5	D 2	$3 \times 2 = 6$, so do the same to the top: $1 \times 2 = 2$.
6	C $\frac{4}{6}$	In each of the others the top is half of the bottom. 4 is not half of 6, so $\frac{4}{6}$ is not equal to $\frac{1}{2}$.
7	A 6	$4 \times 2 = 8$, so $3 \times 2 = 6$. (7 is wrong: adding 4 to the bottom and the top does not work.)
8	E 4	$5 \times 2 = 10$, so $2 \times 2 = 4$.
9	B $\frac{3}{4}$	6 and 8 are both even, so divide both by 2: $\frac{6}{8} = \frac{3}{4}$. Only 1 goes into 3 and 4, so stop.
10	D $\frac{5}{8}$	Only 1 goes into both 5 and 8. The others can be divided: by 2, by 3, by 2 and by 3.
11	A $\frac{1}{2}$	5 out of 10 is $\frac{5}{10}$. Divide the top and bottom by 5: $\frac{1}{2}$. ($\frac{5}{10}$ is right, but not in its simplest form.)
12	C 10	$1 \times 5 = 5$, so do the same to the bottom: $2 \times 5 = 10$.
13	E $\frac{4}{6}$	Multiply the top and bottom by 2: $\frac{2}{3} = \frac{4}{6}$. ($\frac{3}{4}$ is the "add 1 to both" mistake.)
14	B 6	$4 \times 2 = 8$, so $3 \times 2 = 6$. $\frac{3}{4} = \frac{6}{8}$: six eighths.
15	D $\frac{2}{3}$	10 and 15 both end in 0 or 5, so divide both by 5: $\frac{10}{15} = \frac{2}{3}$.
16	A $\frac{2}{3}$	8 out of 12 is $\frac{8}{12}$. The HCF of 8 and 12 is 4. Divide both by 4: $\frac{2}{3}$.
17	3	$4 \times 3 = 12$, so $1 \times 3 = 3$.
18	6	$3 \times 3 = 9$, so $2 \times 3 = 6$.
19	12	$5 \times 4 = 20$, so $3 \times 4 = 12$.
20	3	Going down this time: $16 \div 4 = 4$, so $12 \div 4 = 3$.

Score: out of 20