

11+ Maths Practice Paper

Year 6 · Advanced

Lesson 3.2: Mixed numbers and improper fractions

Read this with your child:

1. This paper has **27 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: **35 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

Write this fraction as a mixed number.

$$\frac{47}{6}$$

A $7\frac{1}{6}$

B $6\frac{5}{6}$

C $7\frac{5}{6}$

D $8\frac{5}{6}$

E $7\frac{5}{47}$

Answer: C $47 \div 6 = 7 \text{ r } 5$, because $7 \times 6 = 42$. So $7\frac{5}{6}$.

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

Now turn over and start Part 1.

Part 1: Multiple choice

1

Write this fraction as a mixed number.

$$\frac{83}{9}$$

A $8\frac{2}{9}$

B $9\frac{1}{9}$

C $9\frac{7}{9}$

D $10\frac{2}{9}$

E $9\frac{2}{9}$

2

Write this mixed number as an improper fraction.

$$11\frac{5}{8}$$

A $\frac{115}{8}$

B $\frac{93}{8}$

C $\frac{88}{8}$

D $\frac{16}{8}$

E $\frac{85}{8}$

3

The mixed number is in its simplest form.

What is the missing number?

$$\frac{75}{12} = 6\frac{\boxed{?}}{4}$$

A 3

B 2

C 4

D 1

E 9

4

How many fifths are there in $7\frac{3}{5}$?

A 38

B 73

C 35

D 10

E 21

5

Which improper fraction is between 5 and 6?

A $\frac{35}{7}$

B $\frac{29}{6}$

C $\frac{39}{7}$

D $\frac{43}{7}$

E $\frac{54}{9}$

6

A café cuts each pie into 6 equal slices. It sells 17 slices on Monday and 21 slices on Tuesday.

How many pies does it sell altogether, as a mixed number in its simplest form?

A $6\frac{2}{6}$

B $6\frac{1}{2}$

C $5\frac{1}{3}$

D $6\frac{1}{3}$

E $7\frac{1}{3}$

7

Three of these are equal to this mixed number. Which one is not?

$$4\frac{1}{2}$$

A $\frac{9}{2}$

B $\frac{18}{4}$

C $\frac{27}{6}$

D $\frac{36}{8}$

E $\frac{41}{2}$

8

What is the missing whole number?

$$\boxed{?} \frac{7}{12} = \frac{67}{12}$$

A 5

B 4

C 6

D 7

E 55

9

How many quarter hours are there in $5\frac{1}{4}$ hours?

A 9

B 20

C 21

D 51

E 24

10

Which of these is equal to 5?

A $\frac{5}{5}$

B $\frac{35}{7}$

C $\frac{15}{5}$

D $\frac{25}{4}$

E $\frac{50}{5}$

11

What is the missing whole number?

$$\frac{100}{7} = \boxed{?} \frac{2}{7}$$

A 13

B 12

C 7

D 15

E 14

12

Write this fraction as a mixed number in its simplest form.

$$\frac{38}{8}$$

A $4\frac{6}{8}$

B $4\frac{3}{8}$

C $3\frac{3}{4}$

D $4\frac{3}{4}$

E $6\frac{3}{4}$

13

Amir changes $3\frac{4}{7}$ into an improper fraction and gets $\frac{34}{7}$.

What mistake has he made?

A He multiplied 3 by 7.

B He joined the 3 and the 4 together.

C He changed the bottom number.

D He added an extra whole.

E He made no mistake.

14

What is the missing number?

$$9\frac{\boxed{?}}{11} = \frac{108}{11}$$

A 9

B 8

C 10

D 99

E 1

15

Ben thinks of an improper fraction with a bottom number of 6. As a mixed number, its whole number is 4 and its fraction part is already in its simplest form.

Which could be Ben's fraction?

A $\frac{26}{6}$

B $\frac{28}{6}$

C $\frac{25}{6}$

D $\frac{30}{6}$

E $\frac{19}{6}$

16

Write this mixed number as an improper fraction.

$$12\frac{3}{4}$$

A $\frac{123}{4}$

B $\frac{51}{4}$

C $\frac{15}{4}$

D $\frac{48}{4}$

E $\frac{39}{4}$

17

Which two whole numbers is this fraction between?

$$\frac{58}{7}$$

A 8 and 9

B 7 and 8

C 9 and 10

D 2 and 3

E 58 and 59

18

Each tray holds 12 cupcakes. A baker makes 100 cupcakes.

How many trays is that, as a mixed number in its simplest form?

A $8\frac{4}{12}$

B $8\frac{1}{4}$

C $9\frac{1}{3}$

D $8\frac{1}{12}$

E $8\frac{1}{3}$

19

Four of these are equal. Which one is not?

A $\frac{17}{3}$

B $5\frac{2}{3}$

C $\frac{34}{6}$

D $5\frac{3}{4}$

E $5\frac{4}{6}$

20

What is the missing number?

$$\frac{\boxed{?}}{5} = 13\frac{4}{5}$$

A 134

B 65

C 69

D 17

E 52

Part 2: Write your answer

21

What is the missing whole number?

$$\frac{95}{8} = \boxed{?} \frac{7}{8}$$

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

22

What is the missing number?

$$14\frac{2}{3} = \frac{\boxed{?}}{3}$$

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

23

What is the missing number?

$$\frac{87}{10} = 8\frac{\boxed{?}}{10}$$

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

24

How many sixths are there in $9\frac{5}{6}$? Find the missing number.

$$9\frac{5}{6} = \frac{\boxed{?}}{6}$$

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

25

The mixed number is in its simplest form.

What is the missing number?

$$\frac{64}{6} = 10\frac{\boxed{?}}{3}$$

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

26

Seb has $8\frac{3}{4}$ pizzas. Every pizza is cut into quarters.

How many quarter slices does he have?

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

27

What is the missing number?

$$15\frac{7}{12} = \frac{\boxed{?}}{12}$$

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 ☐
17	A ☐	B ☐	C ☐	D ☐	E ☐
18	A ☐	B ☐	C ☐	D ☐	E ☐
19	A ☐	B ☐	C ☐	D ☐	E ☐
20	A ☐	B ☐	C ☐	D ☐	E ☐

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

21			
22			
23			
24			
25			
26			
27			

Answers

For a parent to mark with. One mark for each question: the paper is out of 27. Talk through any your child got wrong, using the explanation.

Q	Answer	How to get it
1	E $9\frac{2}{9}$	$83 \div 9 = 9 \text{ r } 2$, because $9 \times 9 = 81$. So $9\frac{2}{9}$.
2	B $\frac{93}{8}$	$11 \times 8 = 88$ eighths, and $88 + 5 = 93$ eighths: $\frac{93}{8}$.
3	D 1	$75 \div 12 = 6 \text{ r } 3$, so $6\frac{3}{12}$. Simplify the fraction part (divide by 3): $6\frac{1}{4}$.
4	A 38	$7 \times 5 = 35$ fifths, and $35 + 3 = 38$ fifths.
5	C $\frac{39}{7}$	$\frac{39}{7} = 5\frac{4}{7}$, which is between 5 and 6. $\frac{35}{7} = 5$ and $\frac{54}{9} = 6$ exactly, $\frac{29}{6}$ is less than 5 and $\frac{43}{7}$ is more than 6.
6	D $6\frac{1}{3}$	$17 + 21 = 38$ slices. $38 \div 6 = 6 \text{ r } 2$, so $6\frac{2}{6}$, which simplifies to $6\frac{1}{3}$.
7	E $4\frac{1}{2}$	$4\frac{1}{2} = \frac{9}{2}$, and $\frac{18}{4}$, $\frac{27}{6}$ and $\frac{36}{8}$ all simplify to $\frac{9}{2}$. $4\frac{1}{2}$ joins the 4 and the 1 together.
8	A 5	$67 \div 12 = 5 \text{ r } 7$, because $5 \times 12 = 60$. So $\frac{67}{12} = 5\frac{7}{12}$.
9	C 21	Each hour has 4 quarter hours, so 5 hours have 20. Add 1 more: 21.
10	B $\frac{35}{7}$	$35 \div 7 = 5$, so $\frac{35}{7} = 5$. ($\frac{5}{5}$ is 1, $\frac{15}{5}$ is 3, $\frac{50}{5}$ is 10, and $\frac{25}{4}$ is $6\frac{1}{4}$.)
11	E 14	$14 \times 7 = 98$, and $100 - 98 = 2$. So $\frac{100}{7} = 14\frac{2}{7}$.
12	D $4\frac{3}{4}$	$38 \div 8 = 4 \text{ r } 6$, so $4\frac{6}{8}$. Simplify the fraction part (divide by 2): $4\frac{3}{4}$.
13	B He joined the 3 and the 4 together.	$3\frac{4}{7}$ is $3 \times 7 + 4 = 25$ sevenths, $\frac{25}{7}$. Amir wrote 3 and 4 side by side to make 34.
14	A 9	$9 \times 11 = 99$, and $108 - 99 = 9$. So $\frac{108}{11} = 9\frac{9}{11}$.
15	C $\frac{25}{6}$	$\frac{25}{6} = 4\frac{1}{6}$. $\frac{26}{6} = 4\frac{2}{6}$ and $\frac{28}{6} = 4\frac{4}{6}$ can still be simplified, $\frac{30}{6} = 5$ and $\frac{19}{6} = 3\frac{1}{6}$.
16	B $5\frac{1}{4}$	$12 \times 4 = 48$ quarters, and $48 + 3 = 51$ quarters: $5\frac{1}{4}$.
17	A 8 and 9	$58 \div 7 = 8 \text{ r } 2$, so $\frac{58}{7} = 8\frac{2}{7}$: more than 8 and less than 9.
18	E $8\frac{1}{3}$	$100 \div 12 = 8 \text{ r } 4$, so $8\frac{4}{12}$. Simplify the fraction part (divide by 4): $8\frac{1}{3}$.
19	D $5\frac{3}{4}$	$\frac{17}{3} = 5\frac{2}{3}$, and $\frac{34}{6} = 5\frac{4}{6} = 5\frac{2}{3}$. Only $5\frac{3}{4}$ is different.
20	C 69	$13 \times 5 = 65$ fifths, and $65 + 4 = 69$ fifths.
21	11	$11 \times 8 = 88$, and $95 - 88 = 7$. So $\frac{95}{8} = 11\frac{7}{8}$.
22	44	$14 \times 3 = 42$ thirds, and $42 + 2 = 44$ thirds.
23	7	$8 \times 10 = 80$, and $87 - 80 = 7$.
24	59	$9 \times 6 = 54$ sixths, and $54 + 5 = 59$ sixths.
25	2	$64 \div 6 = 10 \text{ r } 4$, so $10\frac{4}{6}$. Simplify the fraction part (divide by 2): $10\frac{2}{3}$.
26	35	$8 \times 4 = 32$ quarters, and $32 + 3 = 35$ quarter slices.
27	187	$15 \times 12 = 180$ twelfths, and $180 + 7 = 187$ twelfths.

Score: out of 27