

Name \_\_\_\_\_

Date \_\_\_\_\_

## Stage 7 End-of-unit test 7 — mark scheme

22 questions · 43 marks · calculators are not allowed · allow about 45 minutes

- 1 Write  $3_4$  in its simplest form. [2]

**Answer: 3/4**

The HCF of 18 and 24 is 6, giving  $3/4$ .

- 2 Write  $7_4$  as a mixed number. [2]

**Answer: 1 3/4**

$7 \div 4 = 1$  remainder 3.

- 3 Write  $2_4$  as an improper fraction. [2]

**Answer: 11/4**

$2 \times 4 + 3 = 11$ , so  $11/4$ .

- 4 Which is larger,  $2/3$  or  $3/5$ ? [2]

☐  $2/3$

☐  $3/5$

**Answer: 2/3**

Over 15:  $10/15$  against  $9/15$ .

- 5 Work out  $1_2 + 1_3$  [2]

**Answer: 5/6**

Over 6:  $3/6 + 2/6 = 5/6$ .

- 6 Work out  $3_4 - 1_6$  [2]

**Answer: 7/12**

Over 12:  $9/12 - 2/12 = 7/12$ .

- 7 Work out  $2_3 \times 3_4$  [2]

**Answer: 1/2**

$6/12 = 1/2$ .

- 8 Work out  $3_4 \div 1_2$  [2]

**Answer: 3/2**

$3/4 \times 2/1 = 6/4 = 3/2$ , or  $1 \frac{1}{2}$ .

- 9 Work out  $2_3 \div 4$  [2]

**Answer: 1/6**

$2/3 \times 1/4 = 2/12 = 1/6$ .

- 10 Work out  $3/4$  of 48. [2]

**Answer: 36**

$48 \div 4 = 12$ , then  $12 \times 3 = 36$ .

- 11** Sofia writes  $\frac{1}{2} + \frac{1}{3} = \frac{2}{5}$ . What has she done wrong? [2]

- ☐ Nothing
- ☐ She added the denominators as well as the numerators
- ☐ She used the wrong LCM
- ☐ She forgot to simplify

**Answer: She added the denominators as well as the numerators**

The correct answer is  $\frac{5}{6}$ .

- 12** Dividing by a fraction is the same as ... [1]

- ☐ multiplying by it
- ☐ multiplying by its reciprocal
- ☐ subtracting it
- ☐ adding it

**Answer: multiplying by its reciprocal**

Keep, flip, multiply.

- 13** What is the reciprocal of  $\frac{3}{5}$ ? [1]

- ☐  $\frac{3}{5}$
- ☐  $\frac{5}{3}$
- ☐  $\frac{1}{5}$
- ☐  $-\frac{3}{5}$

**Answer:  $\frac{5}{3}$**

Turn it upside down.

- 14** Multiplying by a fraction less than 1 makes a number ... [1]

- ☐ bigger
- ☐ smaller
- ☐ unchanged
- ☐ negative

**Answer: smaller**

You are taking a part of it.

- 15** Dividing by a fraction less than 1 makes a number ... [1]

- ☐ bigger
- ☐ smaller
- ☐ unchanged
- ☐ negative

**Answer: bigger**

You are asking how many small pieces fit in.

- 16** How many quarter-litre cups can be filled from 3 litres? [2]

**Answer: 12**

$3 \div \frac{1}{4} = 12$ .

- 17** Two thirds of a number is 18. What is the number? [2]

**Answer: 27**

One third is 9, so the number is 27.

- 18** Work out  $1\frac{1}{4} + 1\frac{1}{2} + 3\frac{3}{4}$  [3]

**Answer:  $3\frac{1}{2}$**

Pair  $\frac{1}{4}$  with  $\frac{3}{4}$  to make 1, then add  $\frac{1}{2}$ :  $\frac{3}{2}$ , or  $1\frac{1}{2}$ .

- 19** A jug holds  $\frac{3}{4}$  litre and  $\frac{1}{3}$  litre is poured out. How much is left, in litres? [3]

**Answer:  $\frac{5}{12}$**

Over 12:  $\frac{9}{12} - \frac{4}{12} = \frac{5}{12}$  litre.

- 20** A class of 36 has  $\frac{5}{6}$  present. How many are present? [2]

**Answer: 30**

$36 \div 6 = 6$ , then  $6 \times 5 = 30$ .

- 21** Work out  $\frac{4}{9} \times \frac{3}{8}$ , cancelling first. [3]

**Answer:  $\frac{1}{6}$**

4 and 8 share 4; 3 and 9 share 3; leaving  $\frac{1}{3} \times \frac{1}{2} = \frac{1}{6}$ .

- 22** How many  $\frac{2}{5}$  m pieces can be cut from 4 m? [2]

**Answer: 10**

$4 \div \frac{2}{5} = 4 \times \frac{5}{2} = 10$ .

**Total: 43 marks**