1.10 Fractions: Multiplying and Dividing: Test Pack

Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Calculate 1/2 × 1/4.

(1)

2 Find 3/8 of 56. Show how you work this out.

(2)

3 Sally has 3/4 of a litre of juice. She pours away 2/3 of it. How much juice does she pour away? Give your answer in litres.

(2)

4 Simplify (2/5) ÷ (4/15). Show your working and give your answer in simplest form.

(2)

5 A cake recipe needs 1 2/3 cups of flour. If a baker makes 1/3 of the recipe, how many cups of flour are needed? Give your answer as a fraction in simplest form.

(2)

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6 Solve for x: x × 3/4 = 9/8. Show your method and give x in simplest form.

(3)

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7 Work out 7/11 ÷ 2/3.
Give your answer in its simplest form.

(2)

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8 Work out 1/3 ÷ 4/7.
Give your answer in its simplest form.

(2)

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9 Work out 5/6 ÷ 5/12.
Give your answer in its simplest form.

(2)

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10 Work out 3 2/3 x 3 1/3.
Give your answer as a mixed number or fraction in its simplest form.

(3)

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11 5 out of 30 sandwiches were sold. What fraction is this? Give your answer in its simplest form.

(2)

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12 6/7 of the pupils in a class is 42. How many are there altogether?

(3)

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13 1/8 of the pupils in a class is 14. How many are there altogether?

(3)

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14 Work out 2 1/4 x 2 3/5.
Give your answer as a mixed number or fraction in its simplest form.

(3)

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15 Work out 2/11 x 6/7.
Give your answer in its simplest form.

(2)

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16 Calculate 3 1/3 divided by 1/6. Show your method.

(2)

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17 Simplify 3/7 divided by 9/14. Show your working and give your answer in simplest form.

(2)

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18 Stretch question. A recipe for lemonade needs 1 1/4 litres of water for every 3/8 litre of lemon juice. A chef has 4 3/8 litres of water. Work out how much lemon juice is needed to keep the same ratio, giving your answer as a mixed number in its simplest form.

(4)

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19 Write down the reciprocal of 5/9.

(1)

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20 Calculate and simplify: 5/8 x 12/15.

(2)

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Mark scheme · 1.10 Fractions: Multiplying and Dividing: Test Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

1/8 cao	B1

Answer: **1/8**

Question 2

method to find fraction of amount, e.g. 56 × 3/8 or 56 ÷ 8 × 3	M1
21 cao	A1

Answer: **21**

Question 3

method: 3/4 × 2/3 or equivalent	M1
1/2 litre cao	A1

Answer: **1/2 litre**

Question 4

use reciprocal: 2/5 × 15/4 or show equivalent method	M1
3/2 or 1 1/2 cao	A1

Answer: **3/2 = 1 1/2**

Question 5

convert 1 2/3 to improper fraction 5/3 and multiply by 1/3	M1
5/9 cao	A1

Answer: **5/9**

Question 6

isolate x by dividing both sides by 3/4 or multiply by reciprocal: x = 9/8 × 4/3	M1
attempt to multiply numerators and denominators to get 36/24 or equivalent	M1
3/2 or 1 1/2 cao	A1

Answer: **3/2 = 1 1/2**

Question 7

multiplies by the reciprocal: 7/11 x 3/2	M1
21/22 cao	A1

Answer: **21/22**

Question 8

multiplies by the reciprocal: 1/3 x 7/4	M1
7/12 cao	A1

Answer: **7/12**

Question 9

multiplies by the reciprocal: 5/6 x 12/5	M1
2 cao	A1

Answer: **2**

Question 10

both written as improper fractions: 3 2/3 = 11/3 and 3 1/3 = 10/3	M1
multiplies (or multiplies by the reciprocal when dividing)	M1
12 2/9 or 110/9 cao	A1

Answer: **12 2/9**

Question 11

5/30 seen	M1
1/6 cao	A1

Answer: **1/6**

Question 12

42 ÷ 6 = 7 (the value of one part)	M1
7 x 7	M1
49 cao	A1

Answer: **49**

Question 13

14 ÷ 1 = 14 (the value of one part)	M1
14 x 8	M1
112 cao	A1

Answer: **112**

Question 14

both written as improper fractions: 2 1/4 = 9/4 and 2 3/5 = 13/5	M1
multiplies (or multiplies by the reciprocal when dividing)	M1
5 17/20 or 117/20 cao	A1

Answer: **5 17/20**

Question 15

12/77 or cancelling before multiplying	M1
12/77 cao	A1

Answer: **12/77**

Question 16

converts 3 1/3 to the improper fraction 10/3, then multiplies by 6	M1
20 cao	A1

Answer: **20**

Question 17

multiplies by the reciprocal: 3/7 x 14/9	M1
2/3 cao	A1

Answer: **2/3**

Question 18

converts 1 1/4 to 5/4 and 4 3/8 to 35/8	M1
finds the scale factor: (35/8) divided by (5/4) = 7/2	M1
multiplies the juice amount by the scale factor: 3/8 x 7/2 = 21/16	M1
1 5/16 litres cao	A1

Answer: **1 5/16 litres**

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Question 19

9/5 cao	**B1**

Answer: **9/5**

Question 20

multiplies numerators and denominators: (5x12)/(8x15) = 60/120	**M1**
1/2 cao	**A1**

Answer: **1/2**

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