1.10 Fractions: Multiplying and Dividing: 2-hour Pack

Calculators not allowed · about 120 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

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

(3)

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2 5/6 of the pupils in a class is 60. How many are there altogether?

(3)

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3 Work out 2/5 of £40.

(2)

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4 Work out 3 2/5 x 3 5/6.
Give your answer as a mixed number or fraction in its simplest form.

(3)

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5 1/4 of the sweets in a jar is 7. How many are there altogether?

(3)

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6 16 out of 36 pupils walk to school. What fraction is this? Give your answer in its simplest form.

(2)

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7 Work out 1/8 of 56.

(2)

---

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

(3)

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9 Work out 9/10 of £80.

(2)

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10 5 out of 20 cars are red. What fraction is this? Give your answer in its simplest form.

(2)

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11 3/4 of the sweets in a jar is 39. How many are there altogether?

(3)

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12 Work out 7/10 x 2/11.
Give your answer in its simplest form.

(2)

---

13 Work out 6/7 of 56.

(2)

---

14 3/7 of the pupils in a class is 21. How many are there altogether?

(3)

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15 Work out 2/5 x 7/10.
Give your answer in its simplest form.

(2)

---

16 2/3 of the stickers is 8. How many are there altogether?

(3)

---

17 28 out of 30 cars are red. What fraction is this? Give your answer in its simplest form.

(2)

---

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

(3)

---

19 Work out 1/4 of £16.

(2)

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20 25 out of 45 sandwiches were sold. What fraction is this? Give your answer in its simplest form.

(2)

---

21 3/4 of the pupils in a class is 30. How many are there altogether?

(3)

---

22 28 out of 80 sandwiches were sold. What fraction is this? Give your answer in its simplest form.

(2)

---

23 Work out 1 3/4 ÷ 3 5/6.
Give your answer as a mixed number or fraction in its simplest form.

(3)

---

24 15 out of 40 cars are red. What fraction is this? Give your answer in its simplest form.

(2)

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

(3)

---

26 7/8 of the stickers is 42. How many are there altogether?

(3)

---

27 Work out 5/11 x 1/3.
Give your answer in its simplest form.

(2)

---

28 Work out 2/5 of £45.

(2)

---

29 Work out 5 ÷ 2/3. Give your answer in simplest form.

(2)

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30 Calculate and simplify: (3/7) × (14/9).

(2)

---

31 Ben has 5/6 of a litre of paint. He uses 2/5 of it on a fence. How much paint does he use? Give your answer as a fraction of a litre in simplest form.

(2)

---

32 A cake recipe needs 2 1/4 cups of flour. A baker makes 2/3 of the recipe. How many cups of flour are needed? Give your answer as a mixed number in simplest form.

(3)

---

33 A length of ribbon is 4 1/6 metres long. It is cut into pieces each 3/4 metre long. Work out how many full pieces can be cut, and how much ribbon (as a fraction of a metre) is left over.

(3)

---

34 A tank is 5/8 full of water. This is equivalent to 30 litres. Work out the full capacity of the tank, and hence how many litres are needed to fill it completely.

(3)

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35 Two thirds of a school's students walk to school. Of those who walk, 3/8 arrive before 8:30am. What fraction of the whole school arrives before 8:30am having walked to school? Give your answer in simplest form.

(3)

---

36 Calculate 2/7 x 14.

(1)

---

37 Calculate 3/4 x 2/5, giving your answer in simplest form.

(1)

---

38 Work out 1 2/5 x 5/3. Show your method.

(2)

---

39 A box contains 90 sweets. Maya eats 3/10 of the sweets. How many sweets does she eat?

(2)

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Mark scheme · 1.10 Fractions: Multiplying and Dividing: 2-hour Pack

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

Question 1

both written as improper fractions: 1 1/5 = 6/5 and 1 4/5 = 9/5	M1
multiplies (or multiplies by the reciprocal when dividing)	M1
2 4/25 or 54/25 cao	A1

Answer: **2 4/25**

Question 2

60 ÷ 5 = 12 (the value of one part)	M1
12 x 6	M1
72 cao	A1

Answer: **72**

Question 3

£40 ÷ 5 = £8 or £40 x 2 = £80	M1
£16 cao	A1

Answer: **£16**

Question 4

both written as improper fractions: 3 2/5 = 17/5 and 3 5/6 = 23/6	M1
multiplies (or multiplies by the reciprocal when dividing)	M1
13 1/30 or 391/30 cao	A1

Answer: **13 1/30**

Question 5

7 ÷ 1 = 7 (the value of one part)	M1
7 x 4	M1
28 cao	A1

Answer: **28**

Question 6

16/36 seen	M1
4/9 cao	A1

Answer: **4/9**

Question 7

56 ÷ 8 = 7 or 56 x 1 = 56	M1
7 cao	A1

Answer: **7**

Question 8

both written as improper fractions: 1 2/5 = 7/5 and 2 4/5 = 14/5	M1
multiplies (or multiplies by the reciprocal when dividing)	M1
1/2 cao	A1

Answer: **1/2**

Question 9

£80 ÷ 10 = £8 or £80 x 9 = £720	M1
£72 cao	A1

Answer: **£72**

Question 10

5/20 seen	M1
1/4 cao	A1

Answer: **1/4**

Question 11

39 ÷ 3 = 13 (the value of one part)	M1
13 x 4	M1
52 cao	A1

Answer: **52**

Question 12

14/110 or cancelling before multiplying	M1
7/55 cao	A1

Answer: **7/55**

Question 13

56 ÷ 7 = 8 or 56 x 6 = 336	M1
48 cao	A1

Answer: **48**

Question 14

21 ÷ 3 = 7 (the value of one part)	M1
7 x 7	M1
49 cao	A1

Answer: **49**

Question 15

14/50 or cancelling before multiplying	M1
7/25 cao	A1

Answer: **7/25**

Question 16

8 ÷ 2 = 4 (the value of one part)	M1
4 x 3	M1
12 cao	A1

Answer: **12**

Question 17

28/30 seen	M1
14/15 cao	A1

Answer: **14/15**

Question 18

both written as improper fractions: 1 1/2 = 3/2 and 1 4/5 = 9/5	M1
multiplies (or multiplies by the reciprocal when dividing)	M1
5/6 cao	A1

Answer: **5/6**

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Question 19

£16 ÷ 4 = £4 or £16 x 1 = £16	M1
£4 cao	A1

Answer: **£4**

Question 20

25/45 seen	M1
5/9 cao	A1

Answer: **5/9**

Question 21

30 ÷ 3 = 10 (the value of one part)	M1
10 x 4	M1
40 cao	A1

Answer: **40**

Question 22

28/80 seen	M1
7/20 cao	A1

Answer: **7/20**

Question 23

both written as improper fractions: 1 3/4 = 7/4 and 3 5/6 = 23/6	M1
multiplies (or multiplies by the reciprocal when dividing)	M1
21/46 cao	A1

Answer: **21/46**

Question 24

15/40 seen	M1
3/8 cao	A1

Answer: **3/8**

Question 25

both written as improper fractions: 1 1/4 = 5/4 and 3 1/2 = 7/2	M1
multiplies (or multiplies by the reciprocal when dividing)	M1
4 3/8 or 35/8 cao	A1

Answer: **4 3/8**

Question 26

42 ÷ 7 = 6 (the value of one part)	M1
6 x 8	M1
48 cao	A1

Answer: **48**

Question 27

5/33 or cancelling before multiplying	M1
5/33 cao	A1

Answer: **5/33**

Question 28

£45 ÷ 5 = £9 or £45 x 2 = £90	M1
£18 cao	A1

Answer: **£18**

Question 29

rewrite as 5 × 3/2 or equivalent method	M1
15/2 or 7 1/2 cao	A1

Answer: **15/2 = 7 1/2**

Question 30

multiply numerators and denominators or cancel first: 3×14 and 7×9 or cancel 7 with 14 etc	M1
2/3 cao	A1

Answer: **2/3**

Question 31

uses 5/6 x 2/5	M1
1/3 of a litre cao	A1

Answer: **1/3 of a litre**

Question 32

converts 2 1/4 to the improper fraction 9/4	M1
multiplies 9/4 x 2/3 = 18/12	M1
1 1/2 cups cao	A1

Answer: **1 1/2 cups**

Question 33

converts 4 1/6 to the improper fraction 25/6	M1
divides: 25/6 divided by 3/4 = 50/9	M1
5 full pieces, with 5/12 metre left over cao	A1

Answer: **5 full pieces; 5/12 metre left over**

Question 34

sets up (5/8) x capacity = 30	M1
capacity = 30 divided by 5/8 = 48 litres	M1
18 litres are needed cao	A1

Answer: **Capacity 48 litres; 18 litres needed**

Question 35

uses 2/3 x 3/8	M1
= 6/24	M1
1/4 cao	A1

Answer: **1/4**

Question 36

4 cao	B1

Answer: **4**

Question 37

3/10 cao	B1

Answer: **3/10**

Question 38

converts 1 2/5 to the improper fraction 7/5	M1
7/3 or 2 1/3 cao	A1

Answer: **7/3 (2 1/3)**

Question 39

uses 90 x 3/10	M1
27 cao	A1

Answer: **27**

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