1.5 Writing, Simplifying and Ordering Fractions: 1-hour Pack

Total Marks

EDEXCEL 1MA1 · Calculator allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Write the mixed number 5 1/9 as an improper fraction.

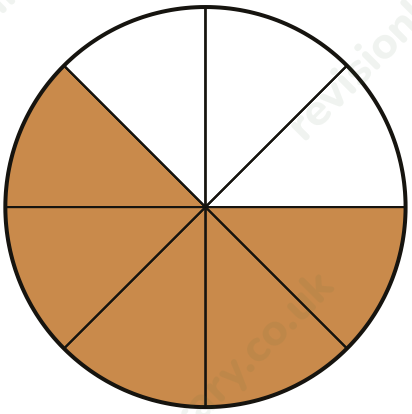
(Total for Question 1 is 2 marks)

2 Find the missing number: 3/7 = ?/49

(Total for Question 2 is 1 mark)

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3 A pizza is cut into 8 equal slices. 5 of the slices have pepperoni on them (shaded).



(a) Write down the fraction of the pizza that has pepperoni on it. **(1)**

.....

(b) Write down the fraction of the pizza that has no pepperoni on it. **(1)**

.....

(Total for Question 3 is 2 marks)

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4 Four friends recorded how far they each swam during a training session.

Ben: 7/8 km Chloe: 3/5 km Dev: 9/10 km Freya: 11/20 km

Write the friends in order of the distance swum, starting with the shortest distance.

(Total for Question 4 is 3 marks)

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5 A drama club has 36 members. 21 of them are in the acting group and the rest are in the backstage crew.

(a) Write down the fraction of drama club members who are in the backstage crew. **(1)**

.....

(b) Write your answer to part (a) in its simplest form. **(1)**

.....

(c) Write down the fraction of drama club members who are in the acting group, in its simplest form. **(1)**

.....

(Total for Question 5 is 3 marks)

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6 Simplify each fraction fully.

(a) 42/56 **(1)**

(b) 45/81 **(1)**

(c) 32/72 **(1)**

(d) 54/90 **(1)**

(Total for Question 6 is 4 marks)

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7 Noah says that 5/8 is smaller than 7/12. Decide whether Noah is correct. You must show working to support your decision.

.....

.....

.....

.....

(Total for Question 7 is 2 marks)

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8 A car park has 84 spaces. On Saturday, 35 spaces are used by staff, 21 spaces are used by visitors and the rest are empty.

(a) Work out the number of empty spaces. **(1)**

.....

(b) Write the fraction of spaces that were empty, in its simplest form. **(2)**

.....

(Total for Question 8 is 3 marks)

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9 Circle the correct list in each part.

(a) Which list shows 3/5, 1/2, 2/5, 3/4 in order from smallest to largest? **(1)**

- ☐ A) 2/5, 1/2, 3/5, 3/4
- ☐ B) 1/2, 2/5, 3/5, 3/4
- ☐ C) 3/4, 3/5, 1/2, 2/5
- ☐ D) 2/5, 3/5, 1/2, 3/4

(b) Which list shows 5/8, 3/4, 1/3, 7/12 in order from largest to smallest? **(1)**

- ☐ A) 3/4, 5/8, 7/12, 1/3
- ☐ B) 1/3, 7/12, 5/8, 3/4
- ☐ C) 3/4, 7/12, 5/8, 1/3
- ☐ D) 5/8, 3/4, 7/12, 1/3

(Total for Question 9 is 2 marks)

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10 Write these fractions in order of size, starting with the smallest.

5/11 2/11 9/11 6/11

(Total for Question 10 is 2 marks)

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11 Ffion was asked to simplify 15/20 fully. Her working is shown below.

15/20 = (15 - 5)/(20 - 5) = 10/15 = 2/3

Ffion's final answer is 2/3.

(a) Explain the mistake in Ffion's working. **(1)**

(b) Work out the correct answer when 15/20 is simplified fully. **(2)**

(Total for Question 11 is 3 marks)

12 Find the missing numerator: 7/9 = ___ /36

(Total for Question 12 is 1 mark)

13 Write these numbers in order of size, starting with the smallest.

7/4 8/5 5/3 11/6

(Total for Question 13 is 3 marks)

14 Show that 15/18 and 5/6 are equivalent fractions.

(Total for Question 14 is 2 marks)

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15 Ribbon A is 3/5 m long. Ribbon B is 7/10 m long. Priya says that Ribbon B is more than 1/10 m longer than Ribbon A. Is Priya correct? You must show your working.

(Total for Question 15 is 3 marks)

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16 State whether 28/42 is written in its simplest form. Give a reason.

(Total for Question 16 is 1 mark)

---

17 Work out which is larger: 5/8 or 3/5. Give a reason for your answer.

(Total for Question 17 is 2 marks)

---

18 Priya simplifies 45/75 like this:
45/75 = 45/75 divided by 5 = 9/15
She says 9/15 is the simplest form. Explain why Priya is wrong, and write 45/75 in its simplest form.

(Total for Question 18 is 2 marks)

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19 Three of these four fractions are equal to each other. The fourth is not.
5/8, 15/24, 20/32, 30/50
Identify which fraction is not equal to the other three. Show working to justify your answer.

(Total for Question 19 is 4 marks)

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Mark scheme · 1.5 Writing, Simplifying and Ordering Fractions: 1-hour Pack

Question 1

5 x 9 + 1 **M1**

46/9 cao **A1**

Answer: 46/9

Question 2

21 cao **B1**

Answer: 21

Question 3

(a) 5/8 oe **B1**

(a) Answer: 5/8

(b) 3/8 oe **B1**

(b) Answer: 3/8

Question 4

converting to a common denominator of 40, at least two correct: 35/40, 24/40, 36/40, 22/40 **M1**

correctly ordering the converted fractions **M1**

Freya, Chloe, Ben, Dev cao **A1**

Answer: Freya, Chloe, Ben, Dev

Question 5

(a) 15/36 oe **B1**

(a) Answer: 15/36

(b) 5/12 ft cao **B1**

(b) Answer: 5/12

(c) 7/12 cao **B1**

(c) Answer: 7/12

Question 6

(a) 3/4 cao **B1**

(a) Answer: 3/4

(b) 5/9 cao **B1**

(b) Answer: 5/9

(c) 4/9 cao **B1**

(c) Answer: 4/9

(d) 3/5 cao **B1**

(d) Answer: 3/5

Question 7

correct working, e.g. converting to a common denominator: 5/8 = 15/24 and 7/12 = 14/24 **B1**

correct conclusion that Noah is not correct, since 15/24 > 14/24 **B1**

Answer: Noah is not correct, since 5/8 = 15/24 and 7/12 = 14/24, and 15/24 > 14/24.

Question 8

(a) 28 cao **B1**

(a) Answer: 28

(b) 28/84 ft from part (a) **M1**

(b) 1/3 cao **A1**

(b) Answer: 1/3

Question 9

(a) A) 2/5, 1/2, 3/5, 3/4 **B1**

(a) Answer: A) 2/5, 1/2, 3/5, 3/4

(b) A) 3/4, 5/8, 7/12, 1/3 **B1**

(b) Answer: A) 3/4, 5/8, 7/12, 1/3

Question 10

recognising that with a common denominator the order follows the numerators **M1**

2/11, 5/11, 6/11, 9/11 cao **A1**

Answer: 2/11, 5/11, 6/11, 9/11

Question 11

(a) she subtracted 5 from the numerator and denominator instead of dividing both by a common factor oe **B1**

(a) Answer: She subtracted 5 from the top and bottom instead of dividing by a common factor.

(b) identifying that the HCF of 15 and 20 is 5 **M1**

(b) 3/4 cao **A1**

(b) Answer: 3/4

Question 12

28 cao **B1**

Answer: 28

Question 13

converting to a common denominator of 60 or to decimals, at least three correct: 105/60, 96/60, 100/60, 110/60 **M1**

correctly ordering the converted values **M1**

8/5, 5/3, 7/4, 11/6 cao (in original fraction form) **A1**

Answer: 8/5, 5/3, 7/4, 11/6

Question 14

dividing numerator and denominator of 15/18 by a common factor, e.g. by 3 **M1**

cso, fully correct working showing 15/18 = 5/6 **A1**

Answer: 15/18 = 5/6 (shown)

Question 15

converting 3/5 to tenths: 3/5 = 6/10 **M1**

correct difference: 7/10 - 6/10 = 1/10 **M1**

cso, correct conclusion that Priya is not correct, since the difference is exactly 1/10 m, not more than 1/10 m **A1**

Answer: Priya is not correct; the difference is exactly 1/10 m.

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Question 16

No, because 28 and 42 have a common factor of 14 (28/42 = 2/3) oe **B1**

Answer: No, because 28 and 42 share a common factor of 14 (28/42 simplifies to 2/3)

Question 17

compare by common denominator or cross-multiplication, e.g. 5/8 = 25/40, 3/5 = 24/40 oe **M1**

5/8 is larger, with reason cao **A1**

Answer: 5/8 is larger because 25/40 > 24/40

Question 18

identify that 9/15 still has a common factor of 3, so it is not fully simplified oe **C1**

3/5 cao **A1**

Answer: 3/5, because 9/15 still has a common factor of 3 which Priya did not divide out

Question 19

simplify 15/24 to 5/8 oe **M1**

simplify 20/32 to 5/8 oe **M1**

simplify 30/50 to 3/5 oe **M1**

state that 30/50 is not equal to the others (it simplifies to 3/5, not 5/8) cao **A1**

Answer: 30/50 (it simplifies to 3/5, not 5/8 like the other three)

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