1.5 Writing, Simplifying and Ordering Fractions: Test Pack

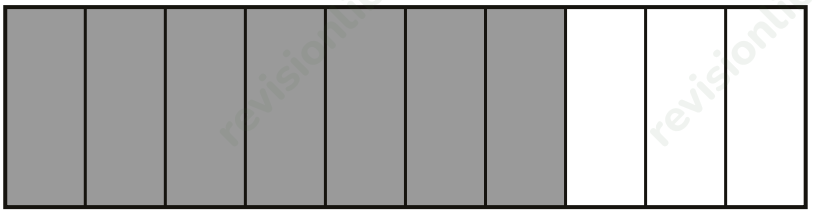
Total Marks

EDEXCEL 1MA1 · Calculator allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A rectangle is divided into 10 equal parts. 7 of the parts are shaded grey.



(a) Write down the fraction of the rectangle that is shaded. **(1)**

.....

(b) Write down the fraction of the rectangle that is not shaded. **(1)**

.....

(Total for Question 1 is 2 marks)

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2 A recipe book lists the amount of flour needed for four different cakes.

Cake A: 3/4 kg Cake B: 5/8 kg Cake C: 2/3 kg Cake D: 7/12 kg

Write the cakes in order of the amount of flour used, starting with the least amount.

(Total for Question 2 is 3 marks)

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3 Circle the correct list in each part.

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

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

(b) Which list shows 5/6, 2/3, 3/4, 1/2 in order from largest to smallest? **(1)**

- ☐ A) 5/6, 3/4, 2/3, 1/2
- ☐ B) 1/2, 2/3, 3/4, 5/6
- ☐ C) 5/6, 2/3, 3/4, 1/2
- ☐ D) 3/4, 5/6, 2/3, 1/2

(Total for Question 3 is 2 marks)

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4 Grace runs a bake sale and sells 60 cakes in total. 24 of the cakes are chocolate, 15 are lemon and the rest are vanilla.

(a) Work out the number of vanilla cakes. **(1)**

.....

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

.....

(Total for Question 4 is 3 marks)

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5 Write the improper fraction 32/7 as a mixed number.

(Total for Question 5 is 2 marks)

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6 Find the missing number: 3/4 = ?/16

(Total for Question 6 is 1 mark)

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7 In Mrs Ahmed's class of 30 pupils, 18 are girls.

(a) Write down the fraction of pupils who are girls. **(1)**

.....

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

.....

(c) Write down the fraction of pupils who are boys, in its simplest form. **(1)**

.....

(Total for Question 7 is 3 marks)

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8 Complete the chain of equivalent fractions.

(a) 2/3 = ?/9 **(1)**

.....

(b) 2/3 = 8/? **(1)**

.....

(c) 2/3 = ?/36 **(1)**

.....

(Total for Question 8 is 3 marks)

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9 Insert <, > or = between each pair of fractions.

(a) 2/3 ___ 5/8 **(1)**

(b) 3/7 ___ 5/14 **(1)**

(c) 6/9 ___ 2/3 **(1)**

(d) 7/15 ___ 3/5 **(1)**

(Total for Question 9 is 4 marks)

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10 State an equivalent fraction to 7/8 that has numerator 21.

(Total for Question 10 is 1 mark)

---

11 Find the missing denominator: 5/8 = 15/___

(Total for Question 11 is 1 mark)

---

12 Two rolls of ribbon are compared. Roll A is 5/6 m long. Roll B is 3/4 m long. Callum says that Roll A is more than 1/10 m longer than Roll B. Is Callum correct? You must show your working.

(Total for Question 12 is 3 marks)

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13 Simplify 56/90 to lowest terms.

(Total for Question 13 is 2 marks)

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14 In a school raffle, 32 out of 72 tickets sold were bought by Year 11 students. Write the fraction of tickets bought by Year 11 students in its simplest form.

(Total for Question 14 is 2 marks)

---

15 Order these mixed numbers from largest to smallest: 2 1/4, 2 2/9, 2 1/3.

(Total for Question 15 is 2 marks)

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16 Show that 7/9 + 5/6 = 29/18. Give the full working.

(Total for Question 16 is 3 marks)

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17 A carpenter has a plank of wood. She uses 2/5 of the plank for a shelf and 1/4 of the plank for a bracket. What fraction of the plank remains? Give your answer in its simplest form.

(Total for Question 17 is 3 marks)

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18 Which of the following mixed numbers are equal? Explain fully.
1 3/5, 1 9/15, 1 6/10, 1 11/15

(Total for Question 18 is 4 marks)

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Mark scheme · 1.5 Writing, Simplifying and Ordering Fractions: Test Pack

Question 1

(a) 7/10 oe **B1**

(a) Answer: 7/10

(b) 3/10 oe **B1**

(b) Answer: 3/10

Question 2

converting to a common denominator of 24, at least three correct: 18/24, 15/24, 16/24, 14/24 **M1**

correctly ordering the converted values **M1**

D, B, C, A cao **A1**

Answer: D, B, C, A

Question 3

(a) B) 1/4, 1/3, 1/2, 2/3 **B1**

(a) Answer: B) 1/4, 1/3, 1/2, 2/3

(b) A) 5/6, 3/4, 2/3, 1/2 **B1**

(b) Answer: A) 5/6, 3/4, 2/3, 1/2

Question 4

(a) 21 cao **B1**

(a) Answer: 21

(b) 21/60 ft from part (a) **M1**

(b) 7/20 cao **A1**

(b) Answer: 7/20

Question 5

32 / 7 with remainder **M1**

4 4/7 cao **A1**

Answer: 4 4/7

Question 6

12 cao **B1**

Answer: 12

Question 7

(a) 18/30 oe **B1**

(a) Answer: 18/30

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

(b) Answer: 3/5

(c) 2/5 cao **B1**

(c) Answer: 2/5

Question 8

(a) 6 cao **B1**

(a) Answer: 6

(b) 12 cao **B1**

(b) Answer: 12

(c) 24 cao **B1**

(c) Answer: 24

Question 9

(a) > cao **B1**

(a) Answer: >

(b) > cao **B1**

(b) Answer: >

(c) = cao **B1**

(c) Answer: =

(d) < cao **B1**

(d) Answer: <

Question 10

21/24 cao **B1**

Answer: 21/24

Question 11

24 cao **B1**

Answer: 24

Question 12

converting 5/6 and 3/4 to twelfths: 5/6 = 10/12, 3/4 = 9/12 **M1**

correct difference: 10/12 - 9/12 = 1/12 **M1**

cso, correct conclusion that Callum is not correct, since 1/12 = 5/60 and 1/10 = 6/60, so 1/12 is less than 1/10 **A1**

Answer: Callum is not correct; the difference is 1/12 m, which is less than 1/10 m.

Question 13

divide numerator and denominator by 2 to 28/45 oe **M1**

28/45 cao **A1**

Answer: 28/45

Question 14

divide numerator and denominator by a common factor, e.g. 8 oe **M1**

4/9 cao **A1**

Answer: 4/9

Question 15

convert to improper fractions or compare decimals, e.g. 2 1/4 = 2.25, 2 2/9 approx 2.222..., 2 1/3 approx 2.333... oe **M1**

2 1/3, 2 1/4, 2 2/9 cao **A1**

Answer: 2 1/3, 2 1/4, 2 2/9

Question 16

convert 7/9 to 14/18 cso **M1**

convert 5/6 to 15/18 cso **M1**

14/18 + 15/18 = 29/18 cso **A1**

Answer: 29/18

Question 17

convert to a common denominator, e.g. 8/20 and 5/20 oe **M1**

add to find total used, 13/20 oe **M1**

7/20 cao **A1**

Answer: 7/20

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Question 18

convert 3/5 to 9/15 oe	**M1**
convert 3/5 to 6/10 oe (or convert others to common denominator) oe	**M1**
identify that 1 3/5 = 1 9/15 = 1 6/10 oe	**M1**
state that 1 3/5, 1 9/15 and 1 6/10 are equal and 1 11/15 is different cao	**A1**

Answer: 1 3/5, 1 9/15 and 1 6/10 are equal because 3/5 = 9/15 = 6/10; 1 11/15 is not equal to them.

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