4.9 Fractions: All Four Operations: Test Pack

Calculators not allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Calculate 3/8 + 2/8.

(1)

2 Subtract 5/6 from 2. Give your answer as a mixed number if needed.

(2)

3 3/4 + 3/12 =

Answer: ___

(2)

4 2 3/4 + 4 1/2 =

Answer: ___

(2)

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5 Find the missing numerator: ?/16 = 5/8. Write your answer as a whole number.

(2)

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6 Grace eats 1/9 of a pie on Monday and 4/9 on Tuesday.

What fraction of the pie is left? Give your answer in its simplest form.

Answer: ___

(2)

---

7 Ravi eats 3/9 of a cake on Monday and 1/9 on Tuesday.

What fraction of the cake is left? Give your answer in its simplest form.

Answer: ___

(2)

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8 Is 2/3 + 1/4 greater than 1? Explain your answer clearly.

(2)

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9 Work out 5 1/2 - 2 7/10. Give your answer in simplest form.

(2)

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10 Sam has a pizza. He eats 2/5 of it. His friend eats 1/3 of the remaining pizza. How much of the whole pizza have they eaten altogether? Show your working and give the answer in simplest form.

(3)

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11 Work out 3 1/3 - 2 2/3.

Give your answer in its simplest form.

Answer: ___

(2)

---

12 Add 7/12 and 1/4. Give your answer in simplest form.

(2)

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13 5 1/3 + 3 1/6 =

Answer: ___

(2)

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14 6/8 x 1/3 =

Answer: ___

(2)

---

15 5/6 + 3/12 =

Answer: ___

(2)

---

16 Work out 2/3 x 3/5. Give your answer in simplest form.

(2)

---

17 Work out 4 1/2 + 3 1/2.

Give your answer in its simplest form.

Answer: ___

(2)

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18 Work out 3 1/3 + 2 2/3.

Give your answer in its simplest form.

Answer: ___

(3)

---

19 Divide 3/4 by 3. Show your method.

(2)

---

20 4/5 + 1/5 =

Answer: ___

(2)

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21 Write 3 3/4 as an improper fraction.

Answer: ___

(2)

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22 A cake recipe needs 3/4 of a cup of sugar and 2/3 of a cup of flour. How many cups of these two ingredients are needed in total? Give your answer in fractions and simplest form.

(3)

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Mark scheme · 4.9 Fractions: All Four Operations: Test Pack

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

Question 1

5/8 cao — **B1**

Answer: **5/8**

Question 2

correct conversion or subtraction: 2 = 1 6/6, 1 6/6 - 5/6 = 1 1/6 — **M1**

1 1/6 cao — **A1**

Answer: **1 1/6**

Question 3

method seen — **M1**

1 cao — **A1**

Answer: **1**

Question 4

method seen — **M1**

7 1/4 or 29/4 cao — **A1**

Answer: **7 1/4**

Question 5

understands scaling: 8 -> 16 is x2 so numerator 5 x 2 = 10, or uses equivalent fraction method — **M1**

10 cao — **A1**

Answer: **10**

Question 6

5/9 eaten seen — **M1**

4/9 cao — **A1**

Answer: **4/9**

Question 7

4/9 eaten seen — **M1**

5/9 cao — **A1**

Answer: **5/9**

Question 8

shows correct addition to a common denominator, e.g. 2/3 = 8/12, 1/4 = 3/12, total 11/12 — **M1**

11/12 < 1 so answer is No, with reason cao — **A1**

Answer: **No, it is 11/12**

Question 9

convert to improper fractions or to common denominator: 5 1/2 = 11/2, 2 7/10 = 27/10, convert to twentieths: 11/2 = 110/20, 27/10 = 54/20, then subtract — **M1**

56/20 = 14/5 or 2 4/5 cao — **A1**

Answer: **2 4/5**

Question 10

correctly finds remaining pizza after Sam: 1 - 2/5 = 3/5, then finds 1/3 of 3/5 = 1/5 — **M1**

adds amounts eaten: 2/5 + 1/5 = 3/5 — **M1**

3/5 cao — **A1**

Answer: **3/5**

Question 11

converts to a common denominator — **M1**

2/3 cao — **A1**

Answer: **2/3**

Question 12

correct common denominator work, e.g. 1/4 = 3/12 and 7/12 + 3/12 = 10/12 — **M1**

5/6 cao — **A1**

Answer: **5/6**

Question 13

method seen — **M1**

8 1/2 or 17/2 cao — **A1**

Answer: **8 1/2**

Question 14

method seen — **M1**

1/4 cao — **A1**

Answer: **1/4**

Question 15

method seen — **M1**

1 1/12 or 13/12 cao — **A1**

Answer: **1 1/12**

Question 16

correct multiplication of numerators and denominators, or cancellation first, e.g. 2/3 x 3/5 = (2x3)/(3x5) — **M1**

2/5 cao — **A1**

Answer: **2/5**

Question 17

converts to a common denominator — **M1**

8 cao — **A1**

Answer: **8**

Question 18

converts to a common denominator — **M1**

one correct fraction seen — **M1**

6 cao — **A1**

Answer: **6**

Question 19

method using reciprocal or dividing numerator by 3, e.g. 3/4 x 1/3 or (3/4) ÷ 3 = 3/12 — **M1**

1/4 cao — **A1**

Answer: **1/4**

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Question 20

method seen	**M1**
1 cao	**A1**

Answer: **1**

Question 21

method seen	**M1**
15/4 cao	**A1**

Answer: **15/4**

Question 22

correct common denominator work, e.g. 3/4 = 9/12, 2/3 = 8/12, then add to 17/12	**M1**
1 5/12 or 17/12 cao	**A1**
answer expressed in simplest form or as mixed number	**B1**

Answer: **1 5/12**

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