2.5 Fractions, Decimals and Percentages: 2-hour Pack

EDEXCEL 1MA1 · Calculator allowed · about 120 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Write these numbers in order of size, starting with the smallest: 11/50, 0.28, 30%

(Total for Question 1 is 3 marks)

2 In Test A, Dev scored 21 out of 50. In Test B, Dev scored 77 out of 100. In which test did Dev do better? Show your working.

(Total for Question 2 is 3 marks)

3 Write the fraction 1/8 as (a) a decimal, (b) a percentage.

(Total for Question 3 is 2 marks)

4 Write 5% as a fraction in its simplest form.

(Total for Question 4 is 2 marks)

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5 Write these numbers in order of size, starting with the smallest: 3/8, 0.415, 32.5%

(Total for Question 5 is 3 marks)

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6 In Test A, Dev scored 5 out of 20. In Test B, Dev scored 30 out of 40. In which test did Dev do better? Show your working.

(Total for Question 6 is 3 marks)

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7 Write the fraction 7/40 as (a) a decimal, (b) a percentage.

(Total for Question 7 is 2 marks)

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8 Write 36% as a fraction in its simplest form.

(Total for Question 8 is 2 marks)

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9 In Test A, Dev scored 49 out of 50. In Test B, Dev scored 23 out of 100. In which test did Dev do better? Show your working.

(Total for Question 9 is 3 marks)

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10 Write the fraction 9/25 as (a) a decimal, (b) a percentage.

(Total for Question 10 is 2 marks)

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11 Write these numbers in order of size, starting with the smallest: 9/25, 0.29, 44%

(Total for Question 11 is 3 marks)

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12 Write 65% as a fraction in its simplest form.

(Total for Question 12 is 2 marks)

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13 Write the fraction 13/20 as (a) a decimal, (b) a percentage.

(Total for Question 13 is 2 marks)

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14 In Test A, Dev scored 28 out of 40. In Test B, Dev scored 74 out of 80. In which test did Dev do better? Show your working.

(Total for Question 14 is 3 marks)

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15 Write these numbers in order of size, starting with the smallest: 5/8, 0.645, 55.5%

(Total for Question 15 is 3 marks)

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16 Write 55% as a fraction in its simplest form.

(Total for Question 16 is 2 marks)

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17 In Test A, Dev scored 8 out of 50. In Test B, Dev scored 49 out of 100. In which test did Dev do better? Show your working.

(Total for Question 17 is 3 marks)

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18 Write these numbers in order of size, starting with the smallest: 5/8, 0.595, 67.5%

(Total for Question 18 is 3 marks)

---

19 Write 42% as a fraction in its simplest form.

(Total for Question 19 is 2 marks)

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20 Write these numbers in order of size, starting with the smallest: 13/20, 0.67, 68%

(Total for Question 20 is 3 marks)

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21 In Test A, Dev scored 46 out of 50. In Test B, Dev scored 89 out of 100. In which test did Dev do better? Show your working.

(Total for Question 21 is 3 marks)

---

22 Write 12% as a fraction in its simplest form.

(Total for Question 22 is 2 marks)

---

23 In Test A, Dev scored 23 out of 40. In Test B, Dev scored 13 out of 80. In which test did Dev do better? Show your working.

(Total for Question 23 is 3 marks)

---

24 Write 250% as a fraction in simplest form.

(Total for Question 24 is 1 mark)

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25 Write 0.875 as a fraction in simplest form.

(Total for Question 25 is 1 mark)

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26 Write 0.24 as a fraction in its simplest form.

(Total for Question 26 is 1 mark)

---

27 Write 175% as a fraction in its simplest form.

(Total for Question 27 is 1 mark)

---

28 Write 13/40 as a percentage.

(Total for Question 28 is 1 mark)

---

29 Write 0.65 as a fraction in its simplest form.

(Total for Question 29 is 1 mark)

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30 Write 4.5 as a percentage.

(Total for Question 30 is 1 mark)

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31 A shirt priced at £40 is reduced by 15%. Work out the sale price.

(Total for Question 31 is 2 marks)

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32 A gym membership costs £45 per month. The price is increased by 8%. Work out the new monthly cost.

(Total for Question 32 is 2 marks)

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33 Express 2/3 as a percentage, giving your answer to 1 decimal place.

(Total for Question 33 is 2 marks)

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34 A pair of trainers costs £60 after a single 25% discount. Work out the original price.

(Total for Question 34 is 3 marks)

---

35 Write 17.5% as a fraction in its simplest form.

(Total for Question 35 is 2 marks)

---

36 What percentage of 240 is 90? Give your answer as a percentage.

(Total for Question 36 is 3 marks)

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37 In 2024, a school had 240 pupils in Year 7. In 2025, the school had 258 pupils in Year 7. Work out the percentage increase in the number of Year 7 pupils.

(Total for Question 37 is 3 marks)

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38 A laptop costs £560 before VAT is added. VAT is charged at 20%. A tablet costs £670, and this price already includes VAT.
Work out the total cost of the laptop including VAT, and state which item is more expensive and by how much.

(Total for Question 38 is 3 marks)

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39 A car is bought for £14000.
In the first year its value decreases by 15%.
In the second year, its new value decreases by a further 10%.

(a) Work out the value of the car at the end of the second year. **(3)**

(b) Work out the overall percentage decrease in the value of the car over the two years. Give your answer correct to 1 decimal place. **(2)**

(Total for Question 39 is 5 marks)

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Mark scheme · 2.5 Fractions, Decimals and Percentages: 2-hour Pack

Question 1

converts to a common form, fraction, decimal or percentage **M1**

all three correctly converted **M1**

11/50, 0.28, 30% cao **A1**

Answer: 11/50, 0.28, 30%

Question 2

21/50 or 77/100 converted to a percentage, decimal or common fraction **M1**

42% and 77% **A1**

Test B **B1**

Answer: Test B

Question 3

0.125 cao **B1**

12.5% cao **B1**

Answer: (a) 0.125, (b) 12.5%

Question 4

5/100 or equivalent **M1**

1/20 cao **A1**

Answer: 1/20

Question 5

converts to a common form, fraction, decimal or percentage **M1**

all three correctly converted **M1**

32.5%, 3/8, 0.415 cao **A1**

Answer: 32.5%, 3/8, 0.415

Question 6

5/20 or 30/40 converted to a percentage, decimal or common fraction **M1**

25% and 75% **A1**

Test B **B1**

Answer: Test B

Question 7

0.175 cao **B1**

17.5% cao **B1**

Answer: (a) 0.175, (b) 17.5%

Question 8

36/100 or equivalent **M1**

9/25 cao **A1**

Answer: 9/25

Question 9

49/50 or 23/100 converted to a percentage, decimal or common fraction **M1**

98% and 23% **A1**

Test A **B1**

Answer: Test A

Question 10

0.36 cao **B1**

36% cao **B1**

Answer: (a) 0.36, (b) 36%

Question 11

converts to a common form, fraction, decimal or percentage **M1**

all three correctly converted **M1**

0.29, 9/25, 44% cao **A1**

Answer: 0.29, 9/25, 44%

Question 12

65/100 or equivalent **M1**

13/20 cao **A1**

Answer: 13/20

Question 13

0.65 cao **B1**

65% cao **B1**

Answer: (a) 0.65, (b) 65%

Question 14

28/40 or 74/80 converted to a percentage, decimal or common fraction **M1**

70% and 92.5% **A1**

Test B **B1**

Answer: Test B

Question 15

converts to a common form, fraction, decimal or percentage **M1**

all three correctly converted **M1**

55.5%, 5/8, 0.645 cao **A1**

Answer: 55.5%, 5/8, 0.645

Question 16

55/100 or equivalent **M1**

11/20 cao **A1**

Answer: 11/20

Question 17

8/50 or 49/100 converted to a percentage, decimal or common fraction **M1**

16% and 49% **A1**

Test B **B1**

Answer: Test B

Question 18

converts to a common form, fraction, decimal or percentage **M1**

all three correctly converted **M1**

0.595, 5/8, 67.5% cao **A1**

Answer: 0.595, 5/8, 67.5%

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Question 19

42/100 or equivalent	**M1**
21/50 cao	**A1**

Answer: 21/50

Question 20

converts to a common form, fraction, decimal or percentage	**M1**
all three correctly converted	**M1**
13/20, 0.67, 68% cao	**A1**

Answer: 13/20, 0.67, 68%

Question 21

46/50 or 89/100 converted to a percentage, decimal or common fraction	**M1**
92% and 89%	**A1**
Test A	**B1**

Answer: Test A

Question 22

12/100 or equivalent	**M1**
3/25 cao	**A1**

Answer: 3/25

Question 23

23/40 or 13/80 converted to a percentage, decimal or common fraction	**M1**
57.5% and 16.25%	**A1**
Test A	**B1**

Answer: Test A

Question 24

5/2 cao	**B1**

Answer: 5/2

Question 25

7/8 cao	**B1**

Answer: 7/8

Question 26

6/25 cao	**B1**

Answer: 6/25

Question 27

7/4 oe (e.g. 1 3/4) cao	**B1**

Answer: 7/4

Question 28

32.5% cao	**B1**

Answer: 32.5%

Question 29

13/20 cao	**B1**

Answer: 13/20

Question 30

450% cao	**B1**

Answer: 450%

Question 31

calculate 15% of 40 or find 85% of 40	**M1**
£34.00 cao	**A1**

Answer: £34.00

Question 32

calculate 8% of 45 (= 3.60) or multiply 45 by 1.08	**M1**
£48.60 cao	**A1**

Answer: £48.60

Question 33

convert 2/3 to decimal 0.666... and multiply by 100	**M1**
66.7% awrt	**A1**

Answer: 66.7%

Question 34

use equation: 0.75 x original = 60 or realise original = 60 / 0.75	**M1**
perform division 60 / 0.75 = 80	**M1**
£80.00 cao	**A1**

Answer: £80.00

Question 35

convert: 17.5/100 = 175/1000 and simplify	**M1**
7/40 cao	**A1**

Answer: 7/40

Question 36

correct division 90 / 240	**M1**
multiply answer by 100	**M1**
37.5% cao	**A1**

Answer: 37.5%

Question 37

correct difference 258 - 240 = 18	**M1**
divide by the original value and multiply by 100: (18 / 240) x 100	**M1**
7.5% cao	**A1**

Answer: 7.5%

Question 38

multiply 560 by 1.20, or find 20% of 560 and add it to 560	**M1**
£672 for the laptop cao	**A1**
correctly states the laptop is more expensive, by £2 (ft from their laptop total)	**B1**

Answer: The laptop costs £672 including VAT. The laptop is £2 more expensive than the tablet.

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Question 39

(a) multiply 14000 by 0.85 (or find 15% of 14000 and subtract) = 11900 **M1**

(a) multiply 11900 by 0.90 (or find 10% of 11900 and subtract), using the value after the first year's decrease **M1**

(a) £10710 cao **A1**

(a) Answer: £10710

(b) use multiplicative factors 0.85 x 0.90 = 0.765, or divide their answer to part (a) by 14000 **M1**

(b) 23.5% decrease awrt **A1**

(b) Answer: 23.5% decrease

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