2.5 Percentages: Test Pack

GL ASSESSMENT GL-11PLUS-MATHS · Calculators not allowed · about 35 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Complete the following conversions between fractions, decimals and percentages.

(a) Write 7/10 as a percentage. **(1)**

(b) Write 0.35 as a percentage. **(1)**

(c) Write 45% as a decimal. **(1)**

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2 Find the following percentages of amounts without using a calculator.

(a) Find 10% of 250 g. **(1)**

(b) Find 25% of 96 ml. **(1)**

(c) Find 50% of £48. **(1)**

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3 Which of the following is equivalent to 3/8?

- ☐ A) 37.5%
- ☐ B) 35%
- ☐ C) 38%
- ☐ D) 40%

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4 Write these four values in order of size, starting with the smallest: 7/25, 0.37, 36%, 7/20.

(2)

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5 Zainab scores 2 goals from 8 shots. What percentage of the shots were goals?

- ☐ A) 26%
- ☐ B) 0.25%
- ☐ C) 400%
- ☐ D) 25%
- ☐ E) 2%

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6 Rhys scores 235 goals from 500 shots. What percentage of the shots were goals?

- ☐ A) 48%
- ☐ B) 235%
- ☐ C) 46%
- ☐ D) 0.47%
- ☐ E) 47%

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7 Imogen scores 64 out of 100 in a test. What is this as a percentage?

- ☐ A) 63%
- ☐ B) 156.25%
- ☐ C) 6.4%
- ☐ D) 64%
- ☐ E) 0.64%

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8 A shop reduces all its prices by 15% in a sale. A jacket now costs £51 in the sale. Calculate the original price of the jacket before the sale.

(3)

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9 A school has 300 pupils. 60% of the pupils are girls.

(a) Calculate the number of girls at the school. **(2)**

.....

(b) 20% of the girls and 25% of the boys walk to school. Calculate the total number of pupils who walk to school. **(4)**

.....

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10 Ewan scores 29 goals from 50 shots. What percentage of the shots were goals?

- ☐ A) 29%
- ☐ B) 59%
- ☐ C) 0.58%
- ☐ D) 58%
- ☐ E) 42%

---

11 A shop has 5 cakes and sells 3 of them. What percentage were sold?

- ☐ A) 40%
- ☐ B) 3%
- ☐ C) 59%
- ☐ D) 60%
- ☐ E) 0.6%

---

12 Ffion scores 4 out of 20 in a test. What is this as a percentage?

- ☐ A) 500%
- ☐ B) 19%
- ☐ C) 2%
- ☐ D) 20%
- ☐ E) 0.2%

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13 Kwame scores 14 goals from 25 shots. What percentage of the shots were goals?

- ☐ A) 44%
- ☐ B) 57%
- ☐ C) 14%
- ☐ D) 56%
- ☐ E) 0.56%

---

14 Niamh scores 5 goals from 8 shots. What percentage of the shots were goals?

- ☐ A) 6.25%
- ☐ B) 0.625%
- ☐ C) 160%
- ☐ D) 62.5%
- ☐ E) 61.5%

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15 A jacket costs £64. In a sale it is reduced by 30%. Find the sale price of the jacket.

(3)

---

16 Arjun scores 2 goals from 5 shots. What percentage of the shots were goals?

- ☐ A) 250%
- ☐ B) 2%
- ☐ C) 0.4%
- ☐ D) 41%
- ☐ E) 40%

---

17 A shop has 80 cakes and sells 20 of them. What percentage were sold?

- ☐ A) 25%
- ☐ B) 2.5%
- ☐ C) 20%
- ☐ D) 0.25%
- ☐ E) 400%

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18 A price of £200 is increased by 10%. The new price is then decreased by 10%.

(a) Work out the final price. **(3)**

(b) Explain why the final price is not equal to the original price of £200. **(2)**

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19 A price is increased by 25%. The new price is then decreased by 20%. Show that the final price is equal to the original price, whatever the starting price was.

(3)

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Mark scheme · 2.5 Percentages: Test Pack

Question 1

(a) 70% cao **B1**

(a) Answer: 70%

(b) 35% cao **B1**

(b) Answer: 35%

(c) 0.45 cao **B1**

(c) Answer: 0.45

Question 2

(a) 25 g cao **B1**

(a) Answer: 25 g

(b) 24 ml cao **B1**

(b) Answer: 24 ml

(c) £24 cao **B1**

(c) Answer: £24

Question 3

A (37.5%) cao **B1**

Answer: A) 37.5%

Question 4

converts all four values to the same form (e.g. decimals: 0.28, 0.37, 0.36, 0.35) **M1**

7/25, 7/20, 36%, 0.37 cao (correct order, allow ft from correct conversions) **A1**

Answer: 7/25, 7/20, 36%, 0.37

Question 5

correct option D (25%) cao **B1**

Answer: D) 25%

Question 6

correct option E (47%) cao **B1**

Answer: E) 47%

Question 7

correct option D (64%) cao **B1**

Answer: D) 64%

Question 8

recognises 85% represents £51 (or finds 1% = 0.60) **M1**

dep: finds 100% from their 1% or 85% **M1**

£60 cao **A1**

Answer: £60

Question 9

(a) 60% of 300 set up **M1**

(a) 180 cao **A1**

(a) Answer: 180

(b) number of boys found (= 300 - 180 = 120) **M1**

(b) 20% of 180 found (= 36) **M1**

(b) 25% of 120 found (= 30) **M1**

(b) 66 cao **A1**

(b) Answer: 66

Question 10

correct option D (58%) cao **B1**

Answer: D) 58%

Question 11

correct option D (60%) cao **B1**

Answer: D) 60%

Question 12

correct option D (20%) cao **B1**

Answer: D) 20%

Question 13

correct option D (56%) cao **B1**

Answer: D) 56%

Question 14

correct option D (62.5%) cao **B1**

Answer: D) 62.5%

Question 15

30% of 64 found (= 19.20), e.g. via 10% = 6.40 **M1**

dep: 64 - their 30% reduction **M1**

£44.80 cao **A1**

Answer: £44.80

Question 16

correct option E (40%) cao **B1**

Answer: E) 40%

Question 17

correct option A (25%) cao **B1**

Answer: A) 25%

Question 18

(a) 200 x 1.1 oe (= 220) **M1**

(a) dep: their 220 x 0.9 oe **M1**

(a) £198 cao **A1**

(a) Answer: £198

(b) states the final price (£198, ft) is less than the original price of £200 **B1**

(b) correct reason: the 10% decrease is applied to £220 (a larger amount than £200), so it removes more (£22) than the 10% increase added (£20) **B1**

(b) Answer: The final price is £2 less than the original because the second 10% is taken from a larger amount (£220) than the first 10% added to (£200).

Question 19

multiplier for the increase found (x1.25) **M1**

dep: multiplier for the decrease found and combined (1.25 x 0.8) **M1**

1.25 x 0.8 = 1, so the final price equals the original price (cso, answer printed) **A1**

Answer: Final price = original price, since the combined multiplier is 1

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