2.5-2 Percentages: Practice Set 2: 30-minute Pack

GL ASSESSMENT GL-11PLUS-MATHS · Calculators not allowed · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Rhys has 24 marbles. 25% of them are red and the rest are blue. How many blue marbles does he have?

- ☐ A) 6
- ☐ B) 12
- ☐ C) 16
- ☐ D) 18
- ☐ E) 20

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2 A printer uses 90 ml of ink to print 300 leaflets. A school needs to print 480 leaflets using the same printer.

(a) What percentage of the original print run of 300 leaflets is 480 leaflets? **(2)**

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(b) Calculate how much ink is needed to print 480 leaflets. **(2)**

.....

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3 A gym membership costs £40 per month. The price rises by 15%. What is the new monthly price?

- ☐ A) £6
- ☐ B) £34
- ☐ C) £44
- ☐ D) £46
- ☐ E) £50

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4 Isla's monthly phone bill was £32. Her new contract increases the bill by 20%, but she also gets a £4 loyalty discount taken off after the increase. Work out her final monthly bill.

(3)

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5 Last year, 55% of pupils at a school cycled to school. This year, the figure rose to 60%. Which statement is correct?

- ☐ A) The percentage of pupils cycling rose by about 9.1 percentage points.
- ☐ B) The percentage of pupils cycling more than doubled.
- ☐ C) The percentage of pupils cycling rose by 5 percentage points.
- ☐ D) The percentage of pupils cycling rose by 5%.
- ☐ E) The percentage of pupils cycling rose by 60%.

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6 A cafe increases the price of a sandwich from £3.20 to £3.68. Calculate the percentage increase.

(3)

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7 Write 0.85 as a percentage.

- ☐ A) 15%
- ☐ B) 0.85%
- ☐ C) 8.5%
- ☐ D) 850%
- ☐ E) 85%

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8 A borrower takes out a loan of £600 at 6% simple interest per year. How much interest is owed after 2 years?

- [ ] A) £48
- [ ] B) £72
- [ ] C) £36
- [ ] D) £74.16
- [ ] E) £636

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9 After a pay cut of 20%, Tariq's monthly salary is £1,440. Calculate his monthly salary before the pay cut.

(3)

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10 A shop increases all its prices by 8%. A bicycle now costs £378 after the increase. Calculate the original price of the bicycle before the increase.

(3)

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11 A price is decreased by 10% and then increased by 20%. Which single percentage change is equivalent to applying both changes in order?

- [ ] A) 30% increase
- [ ] B) No change (0%)
- [ ] C) 8% decrease
- [ ] D) 10% increase
- [ ] E) 8% increase

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12 In a sale, a sofa's price is reduced by 30% to £504. Chidinma has a loyalty card that gives a further 5% off the already-reduced sale price. Calculate the price Chidinma pays, and calculate the overall percentage reduction from the original price.

(5)

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13 A price is increased by 40% and then decreased by 40%. Show that the final price is less than the original price, and find the overall percentage change.

(3)

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14 Find 10% of £340, then use your answer to find 40% of £340.

(2)

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Mark scheme · 2.5-2 Percentages: Practice Set 2: 30-minute Pack

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

Question 1

D) 18 cao **B1**

Answer: 18

Question 2

(a) 480/300 oe seen **M1**

(a) 160% cao **A1**

(a) Answer: 160%

(b) 90 x 1.6 oe (ft from part a as a decimal multiplier) **M1**

(b) 144 ml cao **A1**

(b) Answer: 144 ml

Question 3

D) £46 cao **B1**

Answer: £46

Question 4

20% of 32 found (= 6.40) **M1**

dep: 32 + 6.40, then subtract 4 **M1**

£34.40 cao **A1**

Answer: £34.40

Question 5

C) cao **B1**

Answer: C) The percentage of pupils cycling rose by 5 percentage points.

Question 6

increase found (= 3.68 - 3.20 = 0.48) **M1**

dep: their 0.48 / 3.20 oe seen **M1**

15% cao **A1**

Answer: 15%

Question 7

E) 85% cao **B1**

Answer: 85%

Question 8

B) £72 cao **B1**

Answer: £72

Question 9

recognises 80% represents £1,440 (or finds 1% = 18) **M1**

dep: finds 100% from their 1% or 80% **M1**

£1,800 cao **A1**

Answer: £1,800

Question 10

recognises 108% represents £378 (or finds 1% = 3.50) **M1**

dep: finds 100% from their 1% or 108% **M1**

£350 cao **A1**

Answer: £350

Question 11

E) cao **B1**

Answer: E) 8% increase

Question 12

504 x 0.95 oe seen **M1**

£478.80 cao (Chidinma's price) **A1**

recognises 504 represents 70% of the original price, and finds the original price (= 720) **M1**

dep: reduction from the original found, e.g. 720 - 478.80 (= 241.20), then their 241.20 / 720 **M1**

33.5% cao **A1**

Answer: £478.80; overall reduction of 33.5%

Question 13

combined multiplier found: 1.4 x 0.6 (= 0.84) **M1**

0.84 < 1, so the final price is less than the original (cso) **A1**

16% decrease cao **A1**

Answer: The final price is 16% less than the original (combined multiplier 0.84 is less than 1)

Question 14

10% of 340 found (= 34) **M1**

£136 cao **A1**

Answer: £136

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