5.3 Reverse Percentages: 1-hour Pack

EDEXCEL 1MA1 · Calculator allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A gadget costs £54 after an 8% price rise. Work out the price before the rise.

(Total for Question 1 is 3 marks)

2 A shop sets a selling price of £65 to make a 30% profit. Work out the cost price of the item to the shop.

(Total for Question 2 is 3 marks)

3 A coat is sold after a 25% reduction. The sale price is £90. Work out the original price of the coat.

(Total for Question 3 is 2 marks)

© Revision Library | revisionlibrary.co.uk

4 A car was bought new. In its first year, the value of the car decreased by 18%. At the end of the first year, the car was worth £10,824.

(a) Work out the value of the car when it was new. **(2)**

.....

(b) In the car's second year, its value is expected to decrease by a further 15% (from its value at the end of the first year). Work out the expected value of the car at the end of the second year. Give your answer to the nearest penny. **(2)**

.....

(Total for Question 4 is 4 marks)

---

5 A restaurant automatically adds a service charge of 12.5% to the price of a meal. The total bill, including the service charge, is £81.00. Work out the price of the meal before the service charge was added.

(Total for Question 5 is 2 marks)

---

6 The population of a village decreased by 8% between 2015 and 2025. In 2025 the population was 4,600. Work out the population of the village in 2015.

(Total for Question 6 is 2 marks)

---

7 The price of a house increased by 5% over the last year. The house is now worth £294,000. Work out the price of the house one year ago.

(Total for Question 7 is 2 marks)

© Revision Library | revisionlibrary.co.uk

8 After a 12% pay rise, Dee earns £26.60 a week. Work out the original amount.

(Total for Question 8 is 3 marks)

---

9 A school roll rose by 25% to 4375 pupils. How many pupils were on the roll before the rise?

(Total for Question 9 is 2 marks)

---

10 Shop A has a sale with 30% off. Shop B has a sale with 5% off. The same camera costs £133.00 in Shop A's sale and £342.00 in Shop B's sale. Which shop had the higher original price, and by how much?

(Total for Question 10 is 4 marks)

---

11 In a sale, all prices are reduced by 5%. A television costs £50.35 in the sale. Work out how much was taken off the original price.

(Total for Question 11 is 3 marks)

---

12 The value of a house rose by 10% over a year, to £154000. Work out its value a year ago, to the nearest pound.

(Total for Question 12 is 2 marks)

© Revision Library | revisionlibrary.co.uk

13 A coat is sold with a discount of 5%. The coat now costs £21.85. Work out the original price of the coat.

(Total for Question 13 is 3 marks)

---

14 Shop A has a sale with 20% off. Shop B has a sale with 25% off. The same camera costs £256.00 in Shop A's sale and £75.00 in Shop B's sale. Which shop had the higher original price, and by how much?

(Total for Question 14 is 4 marks)

---

15 A school roll rose by 20% to 25200 pupils. How many pupils were on the roll before the rise?

(Total for Question 15 is 2 marks)

© Revision Library | revisionlibrary.co.uk

16 A number is increased by 4% to give 130. Find the original number.

(Total for Question 16 is 2 marks)

---

17 Chloe buys a sofa on a deferred payment plan.
She pays a deposit equal to 15% of the cash price of the sofa. The remaining amount is then increased by 8%, to cover a credit charge, before being split into equal monthly instalments.
The remaining amount, after the 8% credit charge has been added, is £642.60.
Work out the cash price of the sofa.

(Total for Question 17 is 3 marks)

© Revision Library | revisionlibrary.co.uk

Mark scheme · 5.3 Reverse Percentages: 1-hour Pack

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

Question 1

divide 54 by 1.08 or show 54 = original * 1.08	**M1**
calculate original = 54/1.08	**M1**
50 cao	**A1**

Answer: £50 cao

Question 2

recognise selling price = cost * 1.30	**M1**
divide 65 by 1.3 shown	**M1**
50 cao	**A1**

Answer: £50 cao

Question 3

use 90 = 75% of original, or equivalent method (90/0.75)	**M1**
120 cao	**A1**

Answer: £120

Question 4

(a) 10824 / 0.82 oe	**M1**
(a) £13200 cao	**A1**

(a) Answer: £13,200

(b) 10824 x 0.85 oe	**M1**
(b) £9200.40 awrt	**A1**

(b) Answer: £9,200.40

Question 5

81 / 1.125 oe	**M1**
£72 cao	**A1**

Answer: £72

Question 6

4600 / 0.92 oe	**M1**
5000 cao	**A1**

Answer: 5000

Question 7

294000 / 1.05 oe	**M1**
£280000 cao	**A1**

Answer: £280,000

Question 8

112% or 1.12 identified as the multiplier	**M1**
£26.60 / 1.12 oe	**M1**
£23.75 cao	**A1**

Answer: £23.75

Question 9

125% or 1.25 used as multiplier	**M1**
3500 cao	**A1**

Answer: 3500

Question 10

70% or 0.7 used as multiplier	**M1**
£342.00 / 0.95 oe for Shop B	**M1**
original prices £190 and £360	**A1**
Shop B by £170 cao	**A1**

Answer: Shop B by £170

Question 11

0.95 identified as multiplier	**M1**
£53.00 cao (original price)	**A1**
£2.65 cao	**A1**

Answer: £2.65

Question 12

110% or 1.1 used as multiplier	**M1**
£140000 cao	**A1**

Answer: £140000

Question 13

95% or 0.95 identified as the multiplier	**M1**
£21.85 / 0.95 oe	**M1**
£23.00 cao	**A1**

Answer: £23.00

Question 14

80% or 0.8 used as multiplier	**M1**
£75.00 / 0.75 oe for Shop B	**M1**
original prices £320 and £100	**A1**
Shop A by £220 cao	**A1**

Answer: Shop A by £220

Question 15

120% or 1.2 used as multiplier	**M1**
21000 cao	**A1**

Answer: 21000

Question 16

correct multiplier 1.04 oe, or 130 / 1.04 seen	**M1**
125 cao	**A1**

Answer: 125

Question 17

642.60 / 1.08 (= 595) oe	**M1**
595 / 0.85 used, dependent on the first M1	**M1**
£700 cao	**A1**

Answer: £700

© Revision Library | revisionlibrary.co.uk