R12. Reverse Percentages

OCR

16 Aimee receives a 20% salary increase.
Her new salary is £18 000.

What was Aimee's salary before the increase?

£..... **[3]**

16 Aimee receives a 20% salary increase.
Her new salary is £18 000.

What was Aimee's salary before the increase?

100%

÷6 £18000 = 120%

£3000 = 20%

×5 £15000 = 100%

÷6

×5

£ 15,000 **[3]**

(b) 20% of the mass of a cauliflower is 90 grams.

Find the mass of the cauliflower.

(b) ..... g **[2]**

(b) 20% of the mass of a cauliflower is 90 grams.

Find the mass of the cauliflower.

20% = 90 grams

x5 ↓ ↓ x5

100% =

(b) 450 g ..... g **[2]**

Video created by W Neill

20 Mo's tyre pressure gauge shows a reading which is 12% higher than the actual pressure.

What is the actual pressure when Mo's gauge shows 38.64?

..... **[3]**

Video created by W Neill

Reverse %.

20 Mo's tyre pressure gauge shows a reading which is 12% higher than the actual pressure.

What is the actual pressure when Mo's gauge shows 38.64?

÷112 ↓ 38.64 = 112%. ↓ ÷112

0.345 = 1%.

×100 ↓ 34.5 = 100%

✓

34.5

..... **[3]**

Video created by Will Neill

18 Emily spent £2400 on holiday in 2017.
This was 20% more than she spent on holiday in 2016.

R12

Calculate the amount she spent on holiday in 2016.

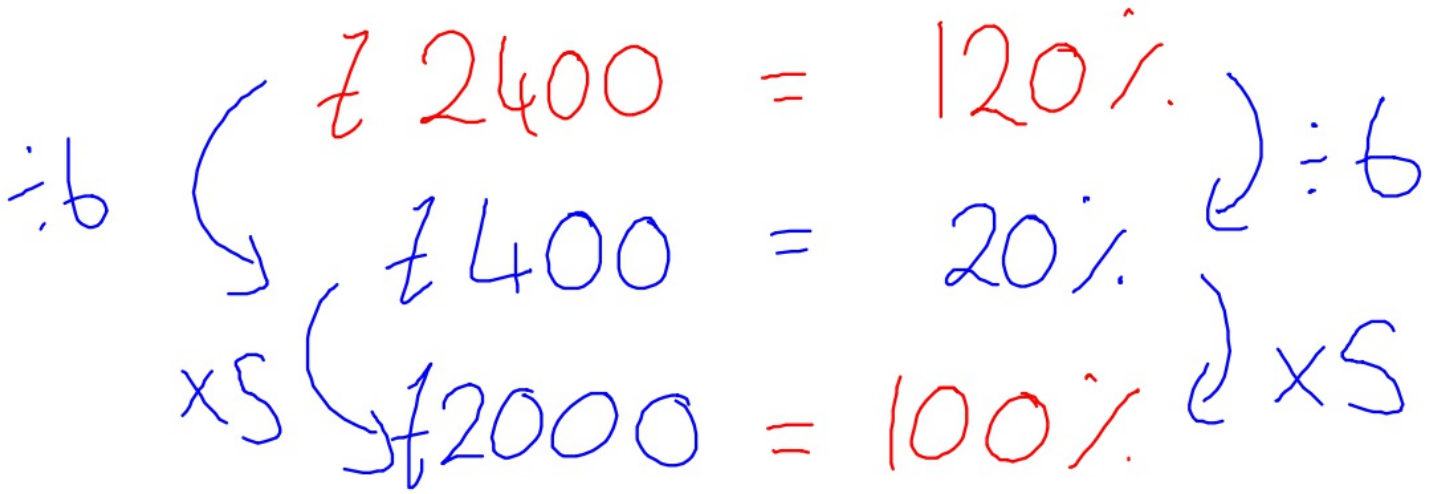
£ ..... **[3]**

Video created by Will Neill

18 Emily spent £2400 on holiday in 2017.
This was 20% more than she spent on holiday in 2016.

R12

Calculate the amount she spent on holiday in 2016.



£ 2000 **[3]**

Video created by W Neill

12 Helen delivers parcels.
On Tuesday, Helen delivered 20% more parcels than on Monday.
On Wednesday, Helen delivered 50% fewer parcels than on Tuesday.
On Wednesday, Helen delivered 72 parcels.

Calculate the number of parcels that Helen delivered on Monday.

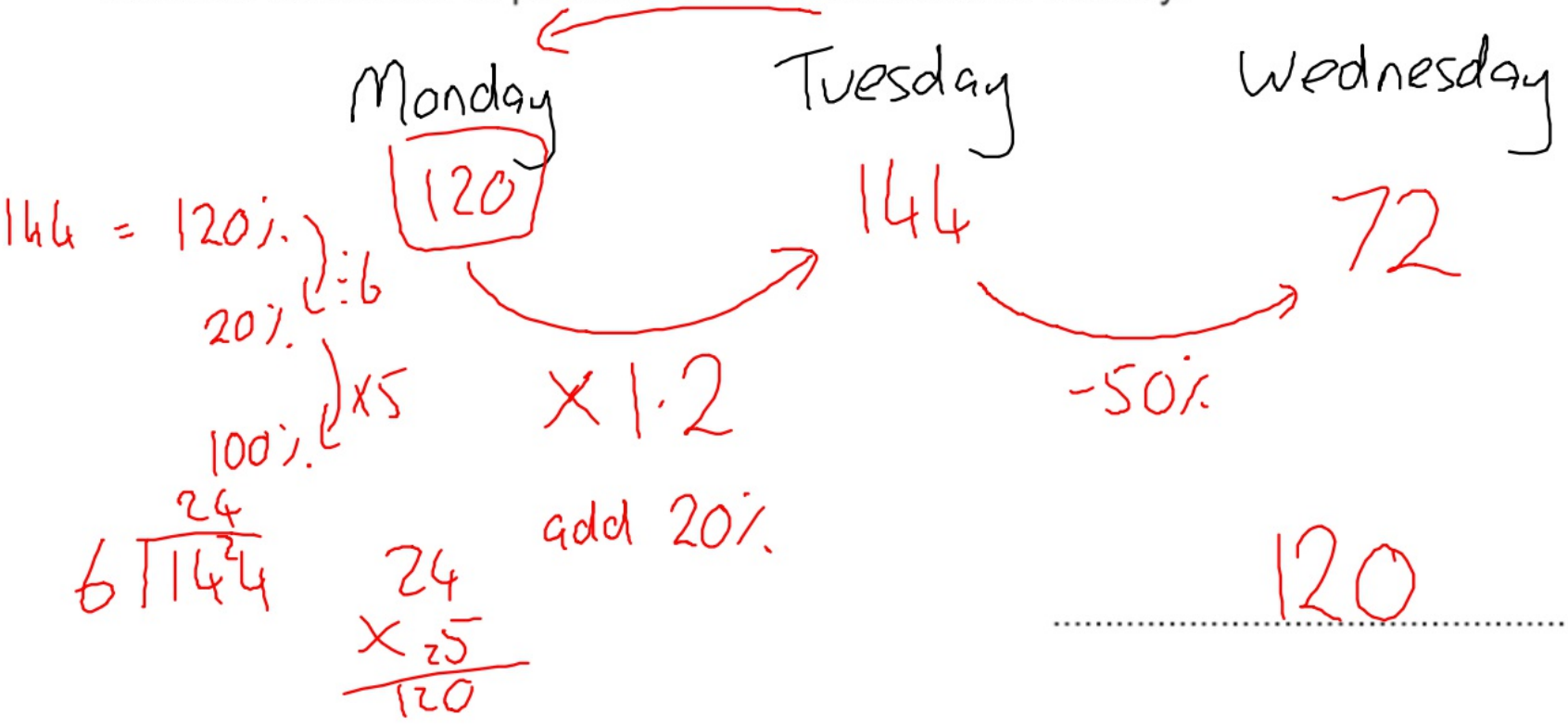
..... **[5]**

Video created by W Neill

12 Helen delivers parcels.

R12 On Tuesday, Helen delivered 20% more parcels than on Monday.
On Wednesday, Helen delivered 50% fewer parcels than on Tuesday.
On Wednesday, Helen delivered 72 parcels.

Calculate the number of parcels that Helen delivered on Monday.



120 ..... **[5]**

7 Naomi is given a 10% pay decrease.
Her new wage is £252 per week.

R8

R12 What would be her weekly wage if, instead, she had received a 10% pay increase?

£ ..... **[5]**

Created by W Neill

7 Naomi is given a 10% pay decrease.
Her new wage is £252 per week.

R8
R12 What would be her weekly wage if, instead, she had received a 10% pay increase?

÷9 £252 = 90%
£28 = 10%
×10 £280 = 100%
÷9
×10

$$9\overline{)252} = 28$$

10% increase

£280 + 10%

£280 + £28

£ £308 [5]

$$\begin{array}{r} 280 \\ +\ 28 \\ \hline 308 \end{array}$$

Created by W Neill

6 Jack sent 15% more text messages in March than in February.
Jack sent 460 text messages in March.

R12

How many more texts did Jack send in March than in February?

..... **[4]**

Created by W Neill

6 Jack sent 15% more text messages in March than in February.
R12 Jack sent 460 text messages in March.

How many more texts did Jack send in March than in February?

115% March 460 460

100% Feb 400

÷115 (460 = 115%) ÷115
4 = 1%
400 = 100%) x100

460 - 400 =

60

.... [4]

Edexcel

Video created by W Neill

23 Harley's house has a value of £160 000 correct to 2 significant figures.

(a) (i) Write down the least possible value of the house.

£.....

(1)

(ii) Write down the greatest possible value of the house.

£.....

(1)

The value of Rita's house increased by 5%.
Her house then had a value of £210 000

(b) Work out the value of Rita's house before the increase.

£.....

(2)

(Total for Question 23 is 4 marks)

Video created by W Neill

23 Harley's house has a value of £160 000 correct to 2 significant figures.

(a) (i) Write down the least possible value of the house.

160000 — 164999 — 15

£ 155000

(1)

(ii) Write down the greatest possible value of the house.

£ 164999.99

(1)

The value of Rita's house increased by 5%.
Her house then had a value of £210 000

Reverse %.

(b) Work out the value of Rita's house before the increase.

÷105 (210000 = 105%) ÷105
x100 (2000 = 1%) x100
200000 = 100%

£ 200,000

(2)

(Total for Question 23 is 4 marks)

30 In a sale, the normal price of a book is reduced by 30%.
The sale price of the book is £2.80

Work out the normal price of the book.

£.....

(Total for Question 30 is 2 marks)

30 In a sale, the normal price of a book is reduced by 30%.
The sale price of the book is £2.80

Work out the normal price of the book.

100%

£2.80 = 70%

÷7 ↓ ÷7

£0.40 = 10%

£4.00 = 100% ↓ ×10

0.40
7|2.80

£ 4.00

(Total for Question 30 is 2 marks)

Video Created by W Neill

11 There are men and women at a meeting.

R12 There are 28 women.
30% of the people at the meeting are men.

Work out the total number of people at the meeting.

.....

(Total for Question 11 is 3 marks)

Video Created by W Neill

11 There are men and women at a meeting.

R12 There are 28 women.
30% of the people at the meeting are men.

Work out the total number of people at the meeting.

100%

30% are men

70% are women

÷7 ↓ 70% = 28 women ↓ ÷7

10% = 4 women

x10 ↓ 100% = 40 Total ↓ x10

40

(Total for Question 11 is 3 marks)

10 In a sale, the price of a TV is reduced by 25%

A week later, the sale price of the TV is reduced by 15%
The price of the TV is now £293.25

What was the price of the TV before the sale?

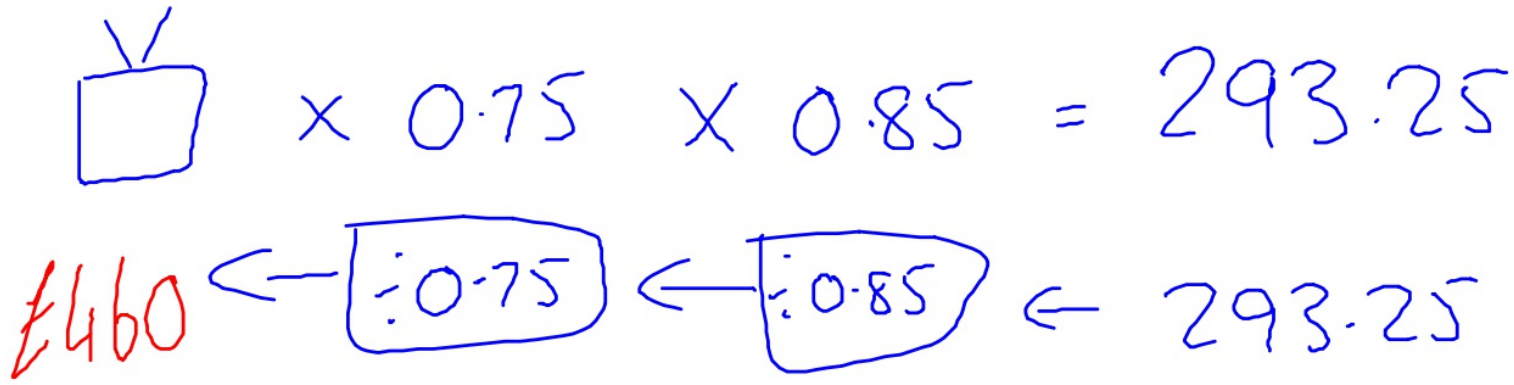
£.....

(Total for Question 10 is 3 marks)

10 In a sale, the price of a TV is reduced by 25%

A week later, the sale price of the TV is reduced by 15%
The price of the TV is now £293.25

What was the price of the TV before the sale?



£ 460

(Total for Question 10 is 3 marks)

Video created by W Neill

10 Adam buys a computer.

R12 20% VAT is added to the price of the computer.
Adam has to pay a total of £900

Work out the price of the computer before VAT is added.

£.....

(Total for Question 10 is 2 marks)

Video created by W Neill

$$\begin{array}{r} 150 \\ 6\overline{)900} \end{array}$$

10 Adam buys a computer.

R12 20% VAT is added to the price of the computer.
Adam has to pay a total of £900

Work out the price of the computer before VAT is added.

£900 = 120%
÷6
£150 = 20%
×5
£750 = 100%

£ 750 ✓

(Total for Question 10 is 2 marks)

Video created by W Neill

9 Jules buys a washing machine.

20% VAT is added to the price of the washing machine.
Jules then has to pay a total of £600

What is the price of the washing machine with **no** VAT added?

£.....

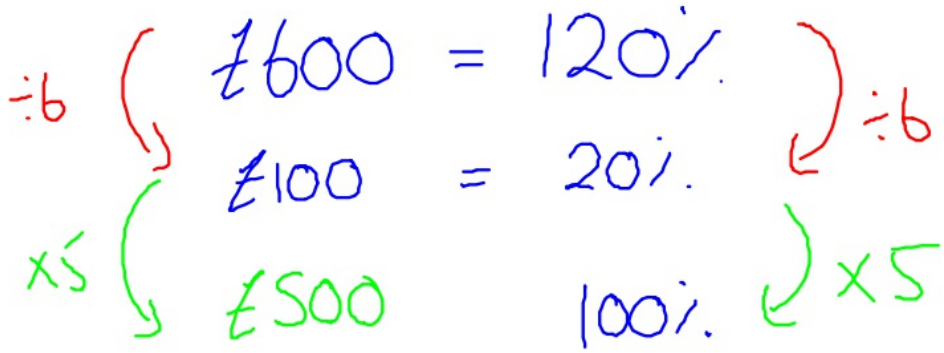
(Total for Question 9 is 2 marks)

Video created by W Neill

9 Jules buys a washing machine.

20% VAT is added to the price of the washing machine.
Jules then has to pay a total of £600

What is the price of the washing machine with **no** VAT added?



£ 500

(Total for Question 9 is 2 marks)

Video created by W Neill

11 In 2003, Jerry bought a house.

R9b In 2007, Jerry sold the house to Mia.
R12 He made a profit of 20%

In 2012, Mia sold the house for £162 000
She made a loss of 10%

Work out how much Jerry paid for the house in 2003

£.....

(Total for Question 11 is 3 marks)

Video created by W Neill

11 In 2003, Jerry bought a house.

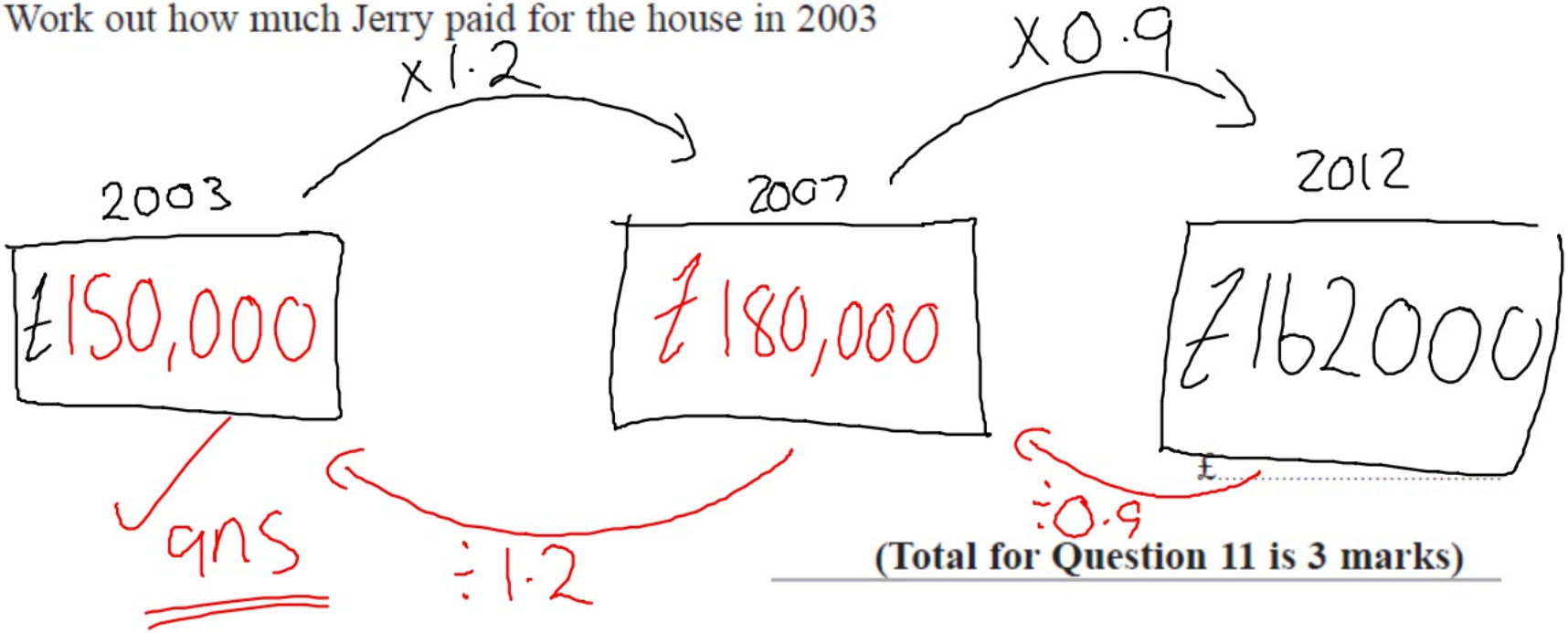
R9b In 2007, Jerry sold the house to Mia.

R12 He made a profit of 20%

In 2012, Mia sold the house for £162 000

She made a loss of 10%

Work out how much Jerry paid for the house in 2003



(Total for Question 11 is 3 marks)

AQA

Video created by W Neill

26 (b) A voucher takes **15% off** the bill.

After using the voucher, the bill for a meal is £27.20

R12

How much was the bill before using the voucher?

[3 marks]

Answer £ _____

Video created by W Neill

(b) A voucher takes **15% off** the bill.

After using the voucher, the bill for a meal is £27.20

R12

How much was the bill before using the voucher?

[3 marks]

÷85 £27.20 = 85% ÷85

£0.32 = 1%

×100 £32 = 100% ×100

Answer £ 32

28 The cost of a ticket increases by 10% to £19.25

R12 Work out the original cost.

[3 marks]

Answer £ _____

R12

The cost of a ticket increases by 10% to £19.25

Work out the original cost.

[3 marks]

÷11 £19.25 = 110%

£1.75 = 10%

x10 £17.50 = 100%

÷11

x10

Answer £ 17.50 ✓