3.7 Percentages: 30-minute Pack

EDEXCEL 1MA1 · Calculator allowed · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Work out 20% of 45.

(Total for Question 1 is 1 mark)

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2 This question has two parts.

(a) Work out 30% of 90. **(1)**

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(b) A bag has 90 sweets. 30% are taken out and shared. How many sweets remain in the bag? **(1)**

.....

(Total for Question 2 is 2 marks)

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3 Express 2 out of 8 as a percentage.

(Total for Question 3 is 2 marks)

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4 A shop reduces the price of a jacket from £500 by 25% in a sale. VAT at 20% is then added to the sale price.
Work out the final price of the jacket.

(Total for Question 4 is 3 marks)

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5 The price of a watch is £250.
Decrease the price by 20%.

(Total for Question 5 is 2 marks)

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6 Which is greater, 15% of 120 or 35% of 300?
You must show your working.

(Total for Question 6 is 3 marks)

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7 Yusuf has £200. He spends 40% of it on a bike. He then spends 25% of the remaining money on a helmet. Work out how much money Yusuf has left.

(Total for Question 7 is 3 marks)

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8 Amelia and Noah each sit a test. Amelia scores 42 out of 60. Noah scores 55 out of 80.

(a) By working out each score as a percentage, determine who did better in the test. You must show your working. **(3)**

(Total for Question 8 is 3 marks)

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9 A painting is currently worth £5000. Its value is expected to increase by 8% each year. Find the number of complete years it takes for the value of the painting to first be worth more than £7000.

(Total for Question 9 is 4 marks)

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Mark scheme · 3.7 Percentages: 30-minute Pack

Question 1

9 cao	**B1**

Answer: 9

Question 2

(a) 27 cao	**B1**

(a) Answer: 27

(b) 63 cao	**B1**

(b) Answer: 63

Question 3

2 / 8 x 100	**M1**
25%	**A1**

Answer: 25%

Question 4

sale price £375.00	**M1**
£375.00 x 1.2 or adds 20%	**M1**
£450.00	**A1**

Answer: £450.00

Question 5

250 x 0.8 or 20% of 250 found	**M1**
£200.00	**A1**

Answer: £200.00

Question 6

18 found	**M1**
105 found	**M1**
35% of 300 is greater	**A1**

Answer: 35% of 300

Question 7

find 40% of 200 = 80 and subtract to find remaining 120, or show 200 x 0.6 = 120	**M1**
find 25% of 120 = 30 and subtract to find remaining 90, or show 120 x 0.75 = 90	**M1**
£90 cao	**A1**

Answer: £90

Question 8

(a) 42/60 x 100 = 70% (oe)	**M1**
(a) 55/80 x 100 = 68.75% (oe)	**M1**
(a) Amelia did better, because 70% > 68.75%	**C1**

(a) Answer: Amelia (70% vs 68.75%)

Question 9

a correct trial value calculated, e.g. value after 4 years = 5000 x 1.08^4 = awrt 6802.44	**M1**
a second correct trial value calculated that brackets 7000, e.g. value after 5 years = 5000 x 1.08^5 = awrt 7346.64	**M1**
correct comparison stated: value after 4 years (awrt 6802) is below 7000, value after 5 years (awrt 7347) is above 7000	**A1**
5 (complete years), cao	**A1**

Answer: 5 complete years

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