1.11 Percentages of Amounts and Percentage Change: 1-hour Pack

Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A ticket costs £40. The price rises by 40%. Work out the new price.

(2)

2 A town's population changed from 25 to 10. Work out the percentage decrease.

(3)

3 A car is worth £80. Its value is increased by 50% in the first year and then decreased by 5% of its new value in the second year. Work out its value at the end of the second year.

(3)

4 A car is worth £160. Its value is decreased by 5% in the first year and then increased by 15% of its new value in the second year. Work out its value at the end of the second year.

(3)

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5 Decrease £90 by 30%.

(2)

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6 A ticket costs £120. The price falls by 12%. Work out the new price.

(2)

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7 After a 20% reduction, the price of a laptop is £48. Work out the original price.

(3)

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8 A ticket costs £150. The price rises by 30%. Work out the new price.

(2)

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9 Work out 5% of 360.

(2)

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10 A player's weekly pay changed from 25 to 20. Work out the percentage decrease.

(3)

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11 A bike costs £90. A shop offers 15% off. A second shop sells the same bike for £81.50. Which shop is cheaper, and by how much?

(3)

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12 A ticket costs £90. The price rises by 35%. Work out the new price.

(2)

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13 Work out 45% of 40.

(2)

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14 A player's weekly pay changed from 60 to 51. Work out the percentage decrease.

(3)

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15 After a 30% reduction, the price of a laptop is £56. Work out the original price.

(3)

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16 Work out 8% of 60.

(2)

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17 A ticket costs £150. The price rises by 8%. Work out the new price.

(2)

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18 (a) Write down the multiplier for a 20% decrease.
(b) Use your multiplier to decrease 120 by 20%.

(2)

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19 Find 10% of 250.

(1)

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20 A price of £60 is increased by 15%. Calculate the new price.

(2)

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Mark scheme · 1.11 Percentages of Amounts and Percentage Change: 1-hour Pack

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

Question 1

40% of 40 = 16 or a multiplier of 1.4 used	M1
£56 cao	A1

Answer: **£56**

Question 2

change = 15 found	M1
15 ÷ 25 x 100 (change over original)	M1
60% decrease cao	A1

Answer: **60% decrease**

Question 3

first change: £120 (or multiplier 1.5)	M1
second change applied to the new value	M1
£114 cao	A1

Answer: **£114**

Question 4

first change: £152 (or multiplier 0.95)	M1
second change applied to the new value	M1
£174.80 cao	A1

Answer: **£174.80**

Question 5

30% of 90 = 27 or a multiplier of 0.7 used	M1
£63 cao	A1

Answer: **£63**

Question 6

12% of 120 = 14.4 or a multiplier of 0.88 used	M1
£105.60 cao	A1

Answer: **£105.60**

Question 7

multiplier 0.8 (or 80% = £48)	M1
£48 ÷ 0.8	M1
£60 cao	A1

Answer: **£60**

Question 8

30% of 150 = 45 or a multiplier of 1.3 used	M1
£195 cao	A1

Answer: **£195**

Question 9

10% = 36 or 5/100 x 360 seen	M1
18 cao	A1

Answer: **18**

Question 10

change = 5 found	M1
5 ÷ 25 x 100 (change over original)	M1
20% decrease cao	A1

Answer: **20% decrease**

Question 11

first shop price £76.50 found	M1
compares £76.50 with £81.50	M1
The first shop is cheaper by £5 cao	A1

Answer: **The first shop is cheaper by £5**

Question 12

35% of 90 = 31.5 or a multiplier of 1.35 used	M1
£121.50 cao	A1

Answer: **£121.50**

Question 13

10% = 4 or 45/100 x 40 seen	M1
18 cao	A1

Answer: **18**

Question 14

change = 9 found	M1
9 ÷ 60 x 100 (change over original)	M1
15% decrease cao	A1

Answer: **15% decrease**

Question 15

multiplier 0.7 (or 70% = £56)	M1
£56 ÷ 0.7	M1
£80 cao	A1

Answer: **£80**

Question 16

10% = 6 or 8/100 x 60 seen	M1
4.8 cao	A1

Answer: **4.8**

Question 17

8% of 150 = 12 or a multiplier of 1.08 used	M1
£162 cao	A1

Answer: **£162**

Question 18

(a) 0.8	B1
(b) 96	B1

Answer: **(a) 0.8, (b) 96**

Question 19

25 cao	B1

Answer: **25**

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Question 20

correct method to find 15% of 60, e.g. 10% = 6, 5% = 3, combined = 9 **M1**

£69 cao **A1**

Answer: **£69**

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