3.10 Simple and Compound Interest: 1-hour Pack

Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Work out the simple interest on £1000 invested at 6% per year for 4 years.

(2)

2 £400 is invested for 2 years at 2% simple interest per year. Work out the total amount in the account at the end of 2 years.

(3)

3 A trader buys an item for £80 and sells it for £48. Work out the percentage loss.

(3)

4 A car is worth £500. Its value is increased by 5% in the first year and then increased by 5% of its new value in the second year. Work out its value at the end of the second year.

(3)

© Revision Library | revisionlibrary.co.uk

5 £400 is invested for 3 years at 3.5% simple interest per year. Work out the total amount in the account at the end of 3 years.

(3)

---

6 A car is worth £100. Its value is increased by 50% in the first year and then decreased by 10% of its new value in the second year. Work out its value at the end of the second year.

(3)

---

7 Work out the simple interest on £400 invested at 5% per year for 7 years.

(2)

---

8 £1500 is invested for 5 years at 2% simple interest per year. Work out the total amount in the account at the end of 5 years.

(3)

---

9 Jo invests £400 in an account paying simple interest. After 8 years the interest earned is £96. Work out the annual interest rate.

(3)

© Revision Library | revisionlibrary.co.uk

10 £2000 is invested for 4 years at 4% per year. Work out how much more interest is earned with compound interest than with simple interest. Give your answer to the nearest penny.

(4)

---

11 A trader buys an item for £20 and sells it for £30. Work out the percentage profit.

(3)

---

12 A trader buys an item for £250 and sells it for £400. Work out the percentage profit.

(3)

---

13 A car is worth £80. Its value is increased by 50% in the first year and then increased by 25% of its new value in the second year. Work out its value at the end of the second year.

(3)

© Revision Library | revisionlibrary.co.uk

14 £200 is invested for 4 years at 4% compound interest per year. Work out the total amount at the end of 4 years. Give your answer to the nearest penny.

(3)

---

15 A small musical instrument costs £180. It depreciates by 15% of its value in one year (simple depreciation used here). Work out its value after one year.

(2)

---

16 Priya invests £1200 at 6% compound interest per year. At the start of the second year she withdraws £150 from the account. Find the total in the account at the end of the second year, giving your answer to 2 decimal places.

(4)

---

17 If a multiplier is 1.08, state the annual percentage rate of increase.

(1)

© Revision Library | revisionlibrary.co.uk

Mark scheme · 3.10 Simple and Compound Interest: 1-hour Pack

Question 1

£1000 x 6/100 = £60 per year or P x R x T ÷ 100	M1
£240 cao	A1

Answer: **£240**

Question 2

yearly interest £8	M1
x 2	M1
£416 cao	A1

Answer: **£416**

Question 3

loss of £32 found	M1
£32 ÷ £80 x 100	M1
40% loss cao	A1

Answer: **40% loss**

Question 4

first change: £525 (or multiplier 1.05)	M1
second change applied to the new value	M1
£551.25 cao	A1

Answer: **£551.25**

Question 5

yearly interest £14	M1
x 3	M1
£442 cao	A1

Answer: **£442**

Question 6

first change: £150 (or multiplier 1.5)	M1
second change applied to the new value	M1
£135 cao	A1

Answer: **£135**

Question 7

£400 x 5/100 = £20 per year or P x R x T ÷ 100	M1
£140 cao	A1

Answer: **£140**

Question 8

yearly interest £30	M1
x 5	M1
£1650 cao	A1

Answer: **£1650**

Question 9

£96 ÷ 8 = £12 per year	M1
£12 ÷ £400 x 100	M1
3% cao	A1

Answer: **3%**

Question 10

compound amount 2000 x 1.04^4	M1
compound total £2339.72	A1
simple interest £320	M1
£19.72 cao	A1

Answer: **£19.72**

Question 11

profit of £10 found	M1
£10 ÷ £20 x 100	M1
50% profit cao	A1

Answer: **50% profit**

Question 12

profit of £150 found	M1
£150 ÷ £250 x 100	M1
60% profit cao	A1

Answer: **60% profit**

Question 13

first change: £120 (or multiplier 1.5)	M1
second change applied to the new value	M1
£150 cao	A1

Answer: **£150**

Question 14

multiplier 1.04 used	M1
200 x 1.04^4	M1
£233.97 cao	A1

Answer: **£233.97**

Question 15

method: 15% of 180 or 180 x 0.15 found	M1
153 (pounds) final value cao	A1

Answer: **£153**

Question 16

value after year 1: 1200*1.06 = 1272	M1
subtract the withdrawal: 1272-150 = 1122	M1
apply year 2 interest: 1122*1.06	M1
1189.32 (pounds) cao	A1

Answer: **£1189.32**

Question 17

8% cao	B1

Answer: **8%**

© Revision Library | revisionlibrary.co.uk