

Name:

Exam Style Questions

## Simple Interest



Corbettmaths

Equipment needed: Calculator, pen

### Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

[www.corbettmaths.com/contents](http://www.corbettmaths.com/contents)

Video 236a



Answers and Video Solutions



1. James invests £200 for 1 year in a bank account.  
The account pays simple interest at a rate of 3% per year.

Work out the total amount of money in the account at the end of the year.

$$200 \div 100 = 2$$

$$2 \times 3 = \pounds 6$$

£ 206 .....

(2)

- 
2. Sami invested £400 for 2 years at 5% per year simple interest.

Work out the total interest Sami gets.

$$400 \div 100 = 4$$

$$4 \times 5 = \pounds 20$$

$$\pounds 20 \times 2$$

£ 40 .....

(3)

- 
3. Carolyn invested £700 for 3 years at 2% per annum simple interest.

Work out the total amount of interest Carolyn earned.

$$700 \div 100 = 7$$

$$7 \times 2 = \pounds 14$$

$$\pounds 14 \times 3 = \pounds 42$$

£ 42 .....

(3)

4. £2700 is invested for 2 years at 5% per year simple interest.

Work out the total interest.

$$2700 \div 10 = 270$$

$$270 \div 2 = 135$$

$$£135 \times 2 = £270$$

$$£ \underline{270} \quad (3)$$

5. Faith invests £800 for 3 years in a bank account.  
The account pays simple interest at a rate of 0.4% per year

Work out the total amount of interest Faith has got at the end of the 3 years.

$$800 \div 100 = 8$$

$$8 \times 0.4 = £3.20$$

$$£3.20 \times 3 = £9.60$$

$$£ \underline{9.60} \quad (3)$$

6. Nina invested £1500 for 4 years at 2.5% per annum simple interest.

Work out the total amount of money in the account at the end of 4 years.

$$1500 \div 100 = £15$$

$$15 \times 2.5 = £37.50$$

$$£37.50 \times 4 = £150$$

$$1500 + 150 = £1650$$

$$£ \underline{1650} \quad (3)$$

7. Mary invests £8000 in an account paying 1.2% simple interest each year.

Calculate the amount of money in her account after 2 years.

$$8000 \div 100 = 80$$

$$80 \times 1.2 = £96$$

$$96 \times 2 = 192$$

£ 8192

.....  
(3)

- 
8. £12500 is invested for 5 years at 1.1% per year simple interest

Work out the total interest.

$$12500 \div 100 = £125$$

$$125 \times 1.1 = £137.50$$

$$£137.50 \times 5 = £687.50$$

687.50

£.....  
(3)

9. Jonah invests £400 in a bank account that pays 3.5% simple interest per year.  
At the end of each year Jonah spends  $\frac{3}{5}$  of the interest and gives the rest to his brother.

How much money does Jonah give to his brother each year?

$$400 \div 100 = 4$$

$$4 \times 3.5 = \pounds 14$$

Gives  $\frac{2}{5}$  to his brother.

$$14 \div 5 = 2.80$$

$$2.80 \times 2 = \pounds 5.60$$

$$\pounds \underline{5.60}$$

(3)

10. Evie is saving up to buy a guitar that costs £109.  
She opens an account at Corbett Bank that pays 3% per annum simple interest.  
She puts £800 into the account.  
Evie does not make any deposits or withdrawals.

After how many whole years will Evie have earned enough interest to buy the guitar?

$$800 \div 100 = 8$$

$$8 \times 3 = \pounds 24$$

$$4 \text{ years} = \pounds 96$$

$$5 \text{ years} = \pounds 120$$

$$\underline{5 \text{ years}}$$

(4)

11. Johanna invests £800 for 20 years in a bank account paying simple interest. At the end of the 20 years, she has earned £320 interest.



Work out the annual rate of interest.

$$£320 \div 20 = £16 \text{ per year}$$

$$1\% \text{ of } £800 = £8$$

$$\underline{\underline{2\% \text{ of } £800 = £16}}$$

or

$$\frac{16}{800} = \frac{2}{100} = 2\%$$

.....%  
(3)

12. Percy invests £2000 for 4 years in a savings account that pays simple interest. At the end of the 4 years, Percy has £2140 in the account.



Work out the annual rate of simple interest.

$$£140 \div 4 = £35$$

$$\frac{35}{2000} = 0.0175$$

$$1.75$$

.....%  
(3)

13. Solomon wants to invest £600 for 3 years.

<p style="text-align: center;">Corbett Bank</p> <p style="text-align: center;">2% per annum simple interest.</p>	<p style="text-align: center;">Banks'R'us</p> <p style="text-align: center;">2.5% per annum simple interest for the first year and 1% per annum simple interest for the following years.</p>
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Which bank should Solomon choose?

Corbett Bank

$$600 \div 100 = 6$$

$$6 \times 2 = 12$$

$$12 \times 3 = \pounds 36$$

Banks'R'us

$$600 \div 100 = 6$$

$$6 \times 2.5 = \pounds 15 \text{ (1st year)}$$

$$6 \times 1 = \pounds 6 \text{ (2nd year)}$$

$$\pounds 6 \text{ (3rd year)}$$

}  $\pounds 27$  ~~Corbett Bank~~ (4)

14. Laura invests £2400 in an account that pays 1.2% simple interest per annum. She invests the money for 5 years.

At the end of each year Laura gives the interest to her two sisters, Hannah and Freya in the ratio 3:7

How much money does Freya receive in total?

$$2400 \div 100 = 24$$

$$24 \times 1.2 = \pounds 28.80$$

$$3 + 7 = 10$$

$$\pounds 28.80 \div 10 = \pounds 2.88$$

$$2.88 \times 7 = \pounds 20.16 \text{ per year}$$

$$20.16 \times 5 = \pounds 100.80$$

$$\pounds 100.80$$

(5)

15. Jaxon invests £3000 in a bank account that pays 2% simple interest per year. He invests the money for 7 months.

Calculate the amount of interest Jaxon earns.

$$3000 \div 100 = 30$$

$$30 \times 2 = \text{£}60 \text{ per year}$$

$$60 \div 12 = 5$$

$$5 \times 7 = \text{£}35$$

£ 35  
(3)

- 
16. Nicole invested some money for 3 years into an account that pays 2% per year simple interest.

She earned £7.20 interest in total.

How much money did Nicole originally invest?

$$\text{£}7.20 \div 3 = \text{£}2.40$$

$$2.40 \div 2 = 1.20$$

$$1.20 \times 100 = 120$$

£ 120  
(3)

17. Noah invests some money in an account that pays 1.5% per year simple interest for 4 years.



George invests the same amount of money in an account that pays  $y\%$  per year simple interest for 3 years.

At the end of their investments, Noah and George both had the same amount of money in their accounts.

Work out the value of  $y$ .

$$\text{let initial sum} = \text{£}100$$

$$100 \div 100 = 1$$

$$1 \times 1.5 = 1.5$$

$$1.5 \times 4 = \text{£}6.$$

£106

$$\text{£}106 - \text{£}100 = \text{£}6$$

$$\text{£}6 \div 3 = \text{£}2.$$

$$\frac{2}{100} = 2\%$$

2%

(4)

18. Luisa plans to invest £600 in a savings account for 3 years.  
She visited two banks and made some notes on the interest rates they offered.



Bank A offers simple interest of 0.8%, rounded to one decimal place.

Bank B offers simple interest of 0.7%, truncated to one decimal place.

Luisa says that she will earn more money if she invests her money in Bank A.

- (a) Explain why she may be wrong.

Bank A could be as low as 0.75%  
Bank B could be as high as 0.799...%

(2)

Bank C offers simple interest of 0.9%

- (b) Work out the total amount of interest Luisa will earn if she invests in Bank C

$$600 \div 100 = 6$$
$$6 \times 0.9 = \pounds 5.40$$

$$\pounds 5.40 \times 3$$

$$\pounds 16.20$$

(3)