

S I M P L E

Interest.

Simple Interest is the profit allowed in lending or forbearing of any sum of money for a determined space of time. The Principal is the money lent, for which interest is to be received.

The Rate Per Cent. is a certain sum agreed on between the borrower and the lender, to be paid for every £100. for the use of the principal 12 months. The Amount is the principal and interest added together.

25



To find the interest of any sum of Money for a Year.

Rule 1. Multiply the principal by the rate per cent; that product divided by 100, will give the interest required.

For several Years

Rule 2. Multiply the interest of one year by the number of years given in the question, and the product will be the answer.

Or Multiply the principal by the rate and time, then divide by 100, which will give the interest for the whole period.

Examples.

What is the interest of £268 for a year at 4 per cent. per annum.

20



$$\begin{array}{r}
 268 \\
 \underline{4} \\
 1072 \\
 \underline{20} \\
 1440 \\
 \underline{12} \\
 480 \\
 \underline{4} \\
 \underline{320}
 \end{array}$$

Ans £ 10. 14. 4<sup>3</sup>/<sub>4</sub>

What is the interest of £ 945. 10 for a year at 4 per cent. per annum

$$\begin{array}{r}
 \text{£ } 945. 10 \\
 \underline{4} \\
 3782. 0 \\
 \underline{20} \\
 1640 \\
 \underline{12} \\
 480 \\
 \underline{4} \\
 \underline{320}
 \end{array}$$

Ans £ 37. 16. 4<sup>3</sup>/<sub>4</sub>

29



What is the interest of £254.17.6 for 5 years at 4 per cent. per annum.

£	s	d	
254	17	6	
			4
10	19	10	0
			20
3	9	0	
			12
10	8	0	£ s d
			10
			3
			10
			¾
			5
3	2	0	Ans £50.19.6

What is the interest of £556.13.4 at 5 per cent. per annum for 5 years.

£	s	d	
556	13	4	
			5
27	8	3	6
			8
			20
16	6	6	£ s d
			27
			16
			8
			5
8	0	0	£139.3.4 Ans

28



When the sum is  $10\%$ ,  $7\%$ , or  $5\%$  of a year, besides a number of years given

Rule. Take parts of the interest for one year, which add to

the interest of the several years given; and it will give the amount

What is the interest of £257.5.1 at 4 percent, for 1 year and three quarters

	£	s	d
	257	5	1
			.4
$\frac{1}{2} = \frac{1}{2}$	1029	0	4
$\frac{1}{4} = \frac{1}{2}$	514	10	2
	257	5	1
	1800	15	7
		20	
	0	15	
		12	
	1	8	7
		4	
	3	4	8

Ans £ 78.0.13/4



What is the interest of £325.7.6 at 6 percent per annum, for 3 years and a half

$$\begin{array}{r} \text{£ } s \quad d \\ 325 \quad 7 \quad 6 \\ \hline 19,52 \quad 5 \quad 0 \end{array}$$

$$\begin{array}{r} 20 \\ \hline 10,45 \\ 12 \\ \hline 5,40 \\ 4 \\ \hline 1,60 \end{array}$$

$$\begin{array}{r} \text{£ } s \quad d \\ \frac{1}{2} = \frac{1}{2} \quad 19 \quad 10 \quad 5\frac{1}{4} \\ \hline 3 \\ 58 \quad 11 \quad 3\frac{3}{4} \\ 9 \quad 15 \quad 2\frac{1}{2} \\ \hline \text{Ans } \text{£ } 68 \quad 6 \quad 6\frac{1}{4} \end{array}$$

What is the interest of £479.5 for 5 years and one quarter, at 5 percent per annum.

$$\begin{array}{r} \text{£ } s \quad d \\ 479 \quad 5 \\ \hline 23,96 \quad 5 \\ 20 \\ \hline 19,25 \\ 12 \\ \hline 3,00 \end{array}$$

$$\begin{array}{r} \text{£ } s \quad d \\ \frac{1}{4} = \frac{1}{4} \quad 23 \quad 19 \quad 3 \\ \hline 5 \\ 119 \quad 16 \quad 3 \\ 5 \quad 19 \quad 9\frac{3}{4} \\ \hline \text{Ans } \text{£ } 25 \quad 16 \quad 0\frac{3}{4} \end{array}$$



When the rate per cent. is  $\frac{1}{4}$ ,  $\frac{1}{2}$ , or  $\frac{3}{4}$  more than the pounds given in the rate, take the part or parts from the principal which added to the product, and divided by 100, will give the answer for one year; and for several years proceed as in the last rule.

Examples

What is the interest of £ 397. 9. 5 for 2 years and a quarter, at 3½ per

per annum.

$$\begin{array}{r}
 \text{£ } 397. 9. 5 \\
 \times 3\frac{1}{2} \\
 \hline
 1192. 8. 3 \\
 198. 12. 8\frac{1}{2} \\
 \hline
 1391. 2. 11\frac{1}{2} \\
 \quad 20 \\
 \hline
 1822 \\
 \quad 12 \\
 \hline
 2735 \\
 \quad 4 \\
 \hline
 \underline{\underline{302}}
 \end{array}$$

29

$$\begin{array}{r}
 \text{£ } 397. 9. 5 \\
 \times 4 \\
 \hline
 2716. 5 \\
 \quad 3. 9. 6 \\
 \hline
 \text{Ans } \underline{\underline{£ 31. 6. 2}}
 \end{array}$$



What is the interest of £576.2.7 for 7 years and a quarter, at 4½ per cent.

per annum.

£	s	d	
576	2	7	
			4½
2304	10	4	
288	1	3½	£ s d
2592	11	7½	¼ = ¼ 25.18.6
			7
	20		
1851			181.9.6
	12		6.9.7½
619			Ans £187.19.1½

What is the interest of £279.13.8 for 3 years and a half, at 5½ per cent. per annum.

30

£	s	d	
279	13	8	
			5½
1398	8	4	
69	18	5	£ s d
1468	6	9	½ = ½ 14.13.8
			3
	20		
1366			44.1.~
	12		7.6.10
801			Ans £51.7.10



When the interest is required for any number of weeks

Rule. As 52 weeks are to the interest of the given sum for a year, so are the weeks given, to the interest required.

What is the interest of £ 259.13.5 for 20 weeks at 5 per cent. per annum.

$$\begin{array}{l} \text{wks } £ \text{ s } \text{ d } \text{ wks} \\ \text{As } 52 : 12.19.8 :: 20 \\ \quad \quad \quad 20 \\ \quad \quad \quad \hline \quad \quad \quad 259 \end{array}$$

$$\begin{array}{r} £ \text{ s } \text{ d} \\ 259.13.5 \\ \hline \quad \quad 5 \\ 1298.7.1 \\ \quad \quad 20 \\ \hline 1967 \\ \quad \quad 12 \\ \hline \underline{8.05} \end{array}$$

$$\begin{array}{r} \quad \quad \quad 20 \quad 12 \\ \hline 52) 62320 \quad 1198 \\ \quad \quad 52 \\ \hline \quad \quad 103 \quad \text{Ans } £ 19.10\frac{1}{2} \\ \quad \quad \quad 52 \\ \quad \quad \quad \hline \quad \quad \quad 512 \\ \quad \quad \quad 468 \\ \quad \quad \quad \hline \quad \quad \quad 440 \\ \quad \quad \quad 416 \\ \quad \quad \quad \hline \quad \quad \quad 24 = \frac{1}{4} - 24 \text{ rem} \end{array}$$

31



What is the amount of £ 375.6.1 and interest for 12 wks. at 4½ per cent.

per annum.

wks. £ s d wks.  
As 52 : 16. 17. 9¼ :: 12

20  
337  
12  
4053

4  
16213

12 4

52) 194556 (3741

156

385

364

215

208

76

52

24

12) 935½

20) 77. 11¼

3. 17. 11¼

375.6.1

Ans £ 379. 4. 0¼

32



~~£~~   ~~s~~   ~~d~~

~~£~~ = ~~£~~ 375. 6. 1

4<sup>1</sup>/<sub>2</sub>

---

1501. 4. 4

187. 13. 0<sup>1</sup>/<sub>2</sub>

---

1688. 17. 4<sup>1</sup>/<sub>2</sub>

20

---

1777

12

---

928

4

---

1114

33

What is the amount of £256. 5. 3 and interest for 25 wks, at 2<sup>3</sup>/<sub>4</sub> per cent

~~£~~ = ~~£~~ 256. 5. 3

2<sup>3</sup>/<sub>4</sub>

---

512. 10. 6

~~£~~ = ~~£~~ 128. 2. 7<sup>1</sup>/<sub>2</sub>

64. 1. 3<sup>3</sup>/<sub>4</sub>

---

704. 14. 5<sup>1</sup>/<sub>4</sub>

20

---

994

12

---

1133

4

---

1133



whs L s o whs  
 As 52 : 7. 0. 114 :: 25

20

140

12

1691

4

6765

25

33825

13530

4

52 169125

3252

156

12 813

131

2067.9

104

3.7.9

272

256.5.3

260 Ans 59.13.0

135

104

21

3H



When the interest is for any number of days.

Rule. Multiply the pence by the principle of the days and rate per cent. for a dividend, cut off two figures on the right hand, and divide by 365, the quotient will be the amount in pence. Or, As 365 days are to the interest of the given sum for a year so are the days given, to the interest required.

Examples

What is the interest of £379.5.4 for 3 years and 75 days at 5 per cent.

$$\begin{array}{r} \text{£} \quad 100 \\ 379.5.4 \\ \hline 18,966.8 \\ \hline 20 \\ \hline 19,26 \\ \hline 12 \\ \hline \underline{\underline{3,20}} \end{array}$$

35



days £ 17 days  
 As 365 : 18 " 19 " 3 :: 75

20  
 379  
12  
 4551  
75

22755

31857      12

365 ) 341325 ( 935

3285      20 ) 77 " 11

1282      3 " 17 " 11

1095      56 " 17 " 9

1875      Ans 60 " 15 " 8

1825

36

What is the interest of £ 2762. 1. 4 for 3 years and

154 days, at  $4\frac{1}{2}$  per cent. per annum.



$\frac{1}{2} = \frac{1}{2} 27261 \frac{1}{4}$   
 $\frac{1}{2}$   
10904 " 5 " 4  
1363 " 0 " 8  
12267 " 6 " -  
20  
1346  
12  
552  
4  
208

days  $\frac{1}{2}$   $\frac{1}{2}$  days  
 365: 122.13.5 $\frac{1}{2}$ : 154  
20  
2453  
12  
29441  
4  
117766  
154  
471064  
588830  
117766  
4  
 365) 18135964 (49687  
1460 (12) 12421 $\frac{3}{4}$   
3535 (20) 103,5 $\frac{1}{4}$   
3285 51,5 $\frac{3}{4}$   
2509 368.0.4 $\frac{1}{2}$   
2190 Ans 2419.15.6 $\frac{1}{4}$   
3196  
2920  
2764  
2555  
209



When the amount, the time, and rate per cent. are given, to find the principal.

Rule. As the amount of £100. at the rate and time given, is to 100, so is the amount given, to the principal required.

What principal being put to interest for 9 years, will amount to £734. 8 at 4 per cent. per annum.

L	L	L	s
$4 \times 9 + 100 = 136 : 100 :: 734. 8$			
	<u>20</u>		<u>20</u>
	2720	14688	
		<u>100</u>	
2720	1468800	540L Ans	
	13600		
	10880		
	10880		
	. . . . . 0		



What principal being put to interest for 7 years, will amount  
to £ 334.16 at 5 per cent. per annum.

$$\begin{array}{cccc} & £ & £ & £ & s \\ 5 \times 7 + 100 = 135 : 100 :: 334.16 & & & & \end{array}$$

$$\begin{array}{r} \underline{20} \\ 3700 \end{array} \qquad \begin{array}{r} \underline{20} \\ 6696 \end{array}$$

$$\begin{array}{r} \phantom{2700} \underline{100} \\ 2700 \ 6696 \ 00 \ 248 \text{ £ Ans} \\ \underline{5400} \\ 12960 \\ \underline{10800} \\ 21600 \\ \underline{21600} \\ \dots \end{array}$$

37

When the principal, rate per cent. and amount are given, to find the time.

Rule As the interest of the principal for one year, is to  
one year, so is the whole interest to the time required.



In what time will £540 amount to £734.8 at 4 per cent. per annum.

£	L s year	L s
540	As 21. 12 : 1 ::	194. 8
4	20	20
2160	432	3888
20		3888
1200		.....

9 Ans years

In what time will £248 amount to £334.16 at 5 per cent. per annum.

£	L s year	L s
248	As 12. 8 : 1 ::	86. 16
5	20	20
1240	248	1736
20		1736
800	38	.....

7 years Ans

When the principal, amount and time are given, to find the rate per cent.



Rule. As the principal is to the interest for the whole time, so is 100L. to the interest for the same time. Divide that interest by the time, and the quotient will be the rate per cent.

Examples

At what rate per cent. will £540 amount to £734.8 in 9 years?

$$\begin{array}{cccc} \text{£} & \text{£} & \text{s} & \text{d} \\ \text{As } 540 & : & 194.8 & :: 100 \end{array}$$

$$\begin{array}{r} 20 \\ \hline 3888 \\ - 100 \end{array}$$

34

$$\begin{array}{r} 540 \overline{) 388800} \\ \underline{3780} \\ 1080 \\ \underline{1080} \\ \dots 0 \end{array} \quad \left( \frac{20}{100} = \frac{2}{10} = \frac{20}{100} = 20\% \right)$$