Past Papers Worksheet P2 & P4 Personal and Household Finance IGCSE Mathematics 0580
(Simple and Compound Interest)

Simple Interest
$I = PRT/100$
$A = P + I$

Compound Interest
$A = P(1 + R/100)^t$
$A = P + I$



[Q1 – Q5]

1. Hans invests $750 for 8 years at a rate of 2% per year simple interest.
   Calculate the interest Hans receives. [2]
   0580/23/M/J/12 Q2)

2. Samantha invests $600 at a rate of 2% per year simple interest.
   Calculate the interest Samantha earns in 8 years. [2]
   0580/23/O/N/12 Q1)

3. Emily invests $\$x$ at a rate of 3% per year simple interest.
   After 5 years she has $20.10 interest. Find the value of x [3]
   0580/21/O/N/13 Q8)

4. Shania invests $750 at a rate of 2% per year simple interest.
   Calculate the **total** amount Shania has after 5 years. [3]
   0580/21/M/J/12 Q10)

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5. Jan invests $800 at a rate of 3% per year simple interest.
   Calculate the value of her investment at the end of 4 years. [3]
   0580/21/O/N/18 Q9)

6. Feri invests some money. The rate of interest for the first year is 2.5%.
   At the end of the second year the overall percentage increase of Feri's investment is 6.6%.
   Find the rate of interest for the second year. [2]
   0580/41/M/J/22 Q2(c)



[Q6 – Q25]

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7. Adilla invests $1200 at a rate of 2.6% per year compound interest.
   Calculate the value of her investment at the end of 2 years. [2]
   0580/23/O/N/17 Q7)

8. Sara invests $600 at a rate of 4% per year compound interest.
   Calculate the total amount Sara has after 2 years [2]
   0580/27/M/J/14 Q4)

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9. Maryah borrows $12 000 to start a business.
The loan is for 3 years at a rate of 5% per year compound interest.
The loan has to be paid back at the end of the 3 years.
Calculate the total amount to be paid back. [3]
0580/23/O/N/14 Q10)

10. (i) Zak invests $500 at a rate of 2% per year simple interest.
Calculate the value of Zak's investment at the end of 5 years. [3]
(ii) Yasmin invests $500 at a rate of 1.8% per year compound interest.
Calculate the value of Yasmin's investment at the end of 5 years. [2]
(iii) Zak and Yasmin continue with these investments.
How many **more comple**te years is it before the value of Yasmin's investment is greater than the value of Zak's investment? [3]
0580/41/O/N/22 Q4(a)

11. Ollie invests $200 at a rate of 0.0035% **per day** compound interest.
Calculate the value of Ollie's investment at the end of 1 year.
[1 year = 365 days.] [2]
0580/42/M/J/20 Q1 (c)

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12. Beatrice invests her $350 at a rate of 0.25% **per month** compound interest.
    Calculate the amount Beatrice has at the end of 5 years.
    Give your answer correct to the nearest dollar. [3]
    0580/42/F/M/23 Q1)(a)(iii)

13. Eric invests an amount in a bank that pays compound interest at a rate of 2.16% per year.
    At the end of 5 years, the value of his investment is $6 999.31 .
    Calculate the amount Eric invests. [3]
    0580/22/F/M/19 Q14)

14. Georg invests $5000 for 14 years at a rate of 2% per year compound interest.
    Calculate the interest he receives.
    Give your answer correct to the nearest dollar. [4]
    0580/21/M/J/15 Q16)

15. (a) Annie invests $330 at a rate of 1.5% per year compound interest.
    Calculate the amount that Annie has after 8 years.
    Give your answer correct to the nearest dollar. [3]
    (b) Find the amount of interest that Annie has, after the 8 years, as a percentage of the $330. [2]
    0580/42/M/J/17 Q1)(b)

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16. The $5635 was the total amount Mr Smith received from an investment he made 5 years ago.
Compound interest at a rate of 2.42% per year was paid on this investment.
Calculate the amount he invested 5 years ago. [3]
0580/42/F/M/17 Q1)(c)

17. Dani invests $200 at a rate of y % per year compound interest.
At the end of 10 years the value of her investment is $256.
Calculate the value of y, correct to 1 decimal place. [3]
0580/42/O/N/17 Q1)(d)

18. Anya invests $6000 in an account that pays compound interest at a rate of r% per year.
At the end of 8 years, the account has earned $621.70 in interest.
Calculate the value of r. [3]
0580/21/M/J/23 Q13)

19. Meera invests $700 in an account paying compound interest at a rate of r% per year.
At the end of 17 years the value of her investment is $1030.35 .
Find the value of r. [3]
0580/22/F/M/22 Q12(b)

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20. Beth invests $2000 at a rate of 2% per year compound interest
Calculate the minimum number of complete years it takes for the value of Beth's investment to increase from $2000 to more than $2500. [3]
0580/42/O/N/20 Q3(a)(iii)

21. Alex invests $200 for 2 years at a rate of 2% per year simple interest.
Chris invests $200 for 2 years at a rate of 2% per year compound interest.
Calculate how much more interest Chris has than Alex. [4]
0580/22/O/N/14 Q17)

22. Meena and Eisha both invest their $6000.
Meena invests her $6000 at a rate of 1.5% per year compound interest.
Eisha invests her $6000 in a bank that pays simple interest.
After 8 years, their investments are worth the same amount.
Calculate the rate of simple interest per year that Eisha received. [5]
0580/42/F/M/16 Q5) (c)

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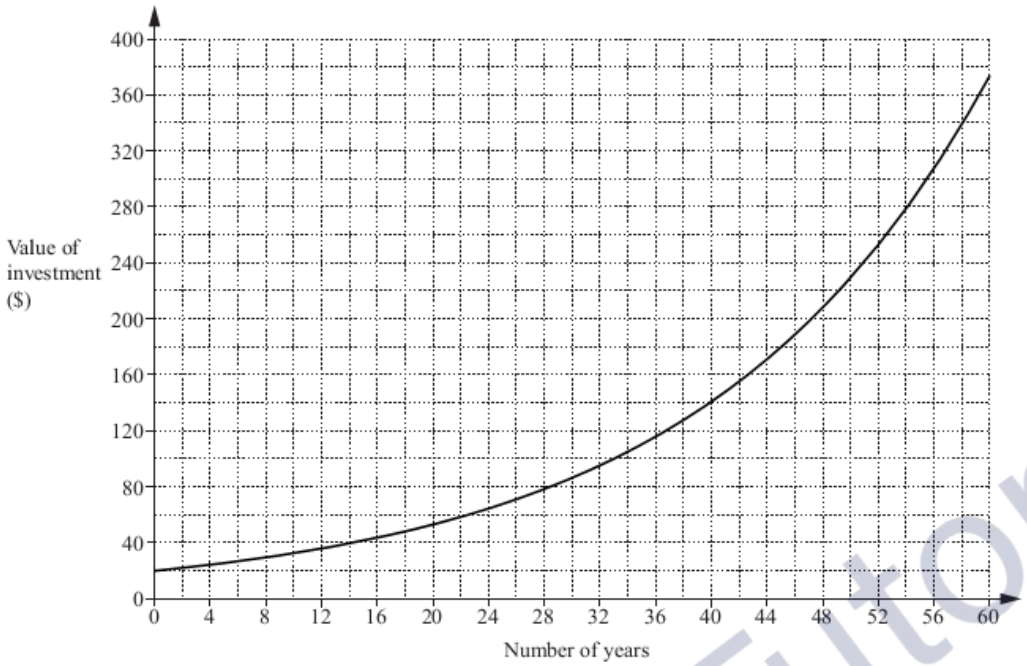


23. Marcel invests $2500 for 3 years at a rate of 1.6% per year simple interest.
Jacques invests $2000 for 3 years at a rate of x% per year compound interest.
At the end of the 3 years Marcel and Jacques receive the same amount of interest.
Calculate the value of x correct to 3 significant figures. [5]
0580/23/M/J/17 Q24)

24. An investment of $200 for 2 years at 4% per year compound interest is the same as an investment of
$200 for 2 years at r % per year simple interest.
Find the value of r. [3]
0580/42/M/J/14 Q1)(e)

25. When Heidi was born, her grandfather invested some money in an account that paid compound interest. The graph shows the exponential growth of this investment.
Use the graph to find
(i) the original amount of money invested,[1]
(ii) the number of years it took for the original amount to double, [1]
(iii) the value of the investment after 54 years. [1]
(b) This account earned compound interest at a rate of r % per year.
Use your answers to part (a)(i)and part (a)(ii)to write down an equation in terms of r. You do not have to solve your equation. [2]

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0580/21/O/N/18 Q21)(a)

Answers

1) 120	11) (ii)203 or 202.6 or 202.6	21) [0.]08
2) 96	12) 407[.00]	22) 1.58
3) 134	13) 6290.0023	23) 1.96
4) 825	14) 1597	24) 4.08
5) 896	15) (i) 372 (ii) 12.6 or 12.7 or 12.63 to 12.73	25) (i) 20 (ii) 14 (iii) 280 (b) 2[x20]= [20] $(1 + r/100)^{14}$
6) 4	16) 5000	
7) 1263.21	17) 2.5 or 5/2	
8) 648.96	18) 1.24	
9) 13891.5[0]	19) 2.3	
10) (i)550 (ii) 546.65 (iii) 8	20) 12	

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