SIMPLE AND COMPOUND INTEREST

This material contains solved past papers. Every question bears the examination year and the original serial number.

Kalid and his brother have $2000 each to invest for 3 years. 0580/02/J/07

(a) North Eastern Bank advertises savings with **simple** interest at 5% per year.
Kalid invests his money in this bank.
How much money will he have at the end of 3 years?

$P = \$2000$
$R = 5\%$ per years
$T = 3$ years
$S.I = (PRT) \div 100$
$= (2000 \times 5 \times 3) \div 100$
$= 300$

Khalid – S.I
Amount $= P + I$
$= 2000 + 300$
$= \$2300$

Answer(a)$ 2300 [2]

(b) South Western Bank advertises savings with **compound** interest at 4.9% per year.
Kalid's brother invests his money in this bank.
At the end of 3 years, how much **more** money will he have than Kalid?

$P = \$2000$
$R = 4.9\%$ per year
$T = 3$ years
$A = P\left(1 + \frac{r}{100}\right)^n$
$A = 2000\left(1 + \frac{4.9}{100}\right)^3$
$= 2308.64$

Khalid's brother – C.I
$C.I = A - P = 2308 - 2000 = 308.64$
$\therefore C.I = \$308$
Khalid's bro had [$308.64 – $300]
$= \$8.64$ more than Khalid

Answer(b)$ $8.64 [3]

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13 Carol invests $6250 at a rate of 2% per year compound interest. 0580/22/M/J/13

Calculate the **total** amount Carol has after 3 years.

$P = \$6250$

$R = 2\%$ per year at C.I

$T = 3$ years

$A = ?$

$A = P\left(1 + \frac{r}{100}\right)^n$

$= 6250\left(1 + \frac{2}{100}\right)^3$ ↗

$\therefore A = \$6632.55$

Answer $ 6632.55 [3]

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5 Celine invests $800 for 5 **months** at 3% simple interest per year.
Calculate the interest she receives.

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$P = \$800$

$T = 5 \text{ months} = \frac{5}{12} \text{ years}$

$R = 3\%$ S.I

$S.I = (PNR) \div 100 \Rightarrow (800 \times \frac{5}{12} \times 3) \div 100$

$= 10$

Answer $ 10 [2]

Sum No 5: Explained:

Always convert the time into years while calculating Simple Interest.

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0580/22/O/N/14

17 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.

$S.I \rightarrow Alex = \frac{PNR}{100} = \frac{200 \times 2 \times 2}{100} = \$8$

$C.I = A - P \Rightarrow Chris$

$A = P(1 + \frac{r}{100})^n = 200(1 + \frac{2}{100})^2 = 208.08$

$\therefore Interest = 208.08 - 200$

$\$8.08$

Answer $ 0.08 [4]

$\therefore$ Chris paid $\$(8.08) - \$(8.00) = \$0.08$ more than Alex

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