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Maths Abhyas.

(8) Rate % = 10%.
Let time = T years
Principal = Rs. 3200
Amount = Rs. 3362.

New Rate % = $\frac{10}{4}$ = 2.5%

Time = 4t years

$3362 = 3200\left(1+\frac{2.5}{100}\right)^{4T}$

$\frac{3362}{3200} = \left(\frac{41}{40}\right)^{4t}$

$\frac{1681}{1600} = \left(\frac{41}{40}\right)^{4t}$

$\left(\frac{41}{40}\right)^{2} = \left(\frac{41}{40}\right)^{4t}$

Comparing both sides.

$4t = 2$

$t = \frac{1}{2}$ years.

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(7) Total Cost of 2 TV Sets = ₹ 42500
Let the Cost of First TV set be = x

Cost of second TV set = $(42500 - x)$

SP OF first T.V set is.
$SP_1 = x + 10\%$ of x
$SP_1 = \frac{110}{100} x$

SP of Second TV set
$SP_2 = 42500 - x - 10\%$ of $(42500 -$
$SP_2 = 90\left(\frac{42500 - x}{100}\right)$

SP of first TV set = SP OF Second TV Set

$\frac{110x}{100} = 90\left(\frac{42500 - x}{100}\right)$
$11x = 90(42500 - x)$
$11x = 3825000 - 9x$
$20x = 382500$
$x = 19125$

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∴ Cost price of first set = ₹19125
Cost price of second set = ₹23375

(4) Amount = R.S.5832
Let P be the sum
Rate = 8% p.a
n = 2 years
$A = P\left(1+\frac{R}{100}\right)^n \Rightarrow P = A \div \left(1+\frac{R}{100}\right)^n$

$\Rightarrow P = R.S\,5832 \div \left(1+\frac{8}{100}\right)^2$

$= RS = 5832 \div \left(\frac{27}{25}\right)^2 = R.S = 5832 \times \left(\frac{25}{27}\right)^2$

$RS = 5832 \times \frac{25}{27} \times \frac{25}{27} = 8 \times 625 = RS.5000$

(5) Principal = 9600
Rate = 5.5
Time = 3 years

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

$= 9600\left(1+\frac{5.5}{100}\right)^3$

$= 9600(1.055)^3$

$= 11272.72$

Compound interest $= A - P$

$= 11272.72 - 9600$

$= RS - 1672.72$

(3) Person borrows RS - 6,000 for 3 years at 5 %. To another person for 3 years at rate of 6.5 %.

$P = 6,000$

$R = 5\%$

$n = 3$ years

Interest paid by him $= \frac{6000 \times 5 \times 3}{100}$

$= \frac{900}{100} = \frac{90,000}{100}$

Second

$P = 6000$, $R = 6.5\%$ $T = 3$ years.

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Intrest he recieved = Rs = $\frac{6000 \times 6.5\% \times 3}{100}$

= $\frac{\cancel{117,000}^{1170}}{\cancel{100}}$ = 1170

= gain of 2 years = 1170 − 900

= $\frac{\cancel{270}^{90}}{3}$

= His gain per year is

90%