

10a) i) ~~At~~ $P = 1000$, $r = 6\%$, $n = 2$

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

$$= 1000 (1.06)^1$$

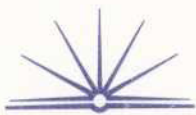
$$= ~~1000 \times 1.06~~$$

= \$1060 after 1 year (~~beginning~~ (beginning of second year))

ii)

iii) $n = 10$, $A = 1000$

P. T. O



b) i) $\cos \theta = \frac{\text{farmhouse} + 1.04 \text{ m}}{x} = \frac{250}{x}$

$$x = \frac{250}{\cos \theta}$$

Bus:

Bus to Clair

ii) $\frac{2000 \text{ m s}^{-1}}{15 \text{ m s}^{-1}} = 133.33 \text{ sec}$
 $= 2.22 \text{ min.}$

Clair to road

$\frac{250 \text{ m}}{\cos \theta} = 266 \text{ sec}$
 $= 4.43 \text{ min.}$

From
8:00 + 2.22 min
↑

School bus leaves @ 8 am, at Clair by 8:02:22

Clair at road at ~~house~~ farmhouse + ~~1.04~~ 4.43

$8:02:22 - 4.43 = 8:00:00 - 1.89 \text{ sec} = 7:56:21$

Latest time Clair can leave farmhouse is

~~8:02:22~~ 8 am