1.13 (a) $\quad 1000\left(1+\dfrac{5}{4\times100}\right)^{4\times3}$ *(M1)(A1)*

> **Note:** Award *(M1)* for substitution into compound interest formula, *(A1)* for correct substitution.

    OR

$N = 3$
$I\% = 5$
$PV = -1000$
$P/Y=1$
$C/Y = 4$ *(A1)(M1)*

> **Note:** Award *(A1)* for $C/Y = 4$ seen, *(M1)* for other correct entries.

    OR

$N = 12$
$I\% = 5$
$PV = -1000$
$P/Y = 4$
$C/Y = 4$ *(A1)(M1)*

> **Note:** Award *(A1)* for $C/Y = 4$ seen, *(M1)* for other correct entries.

$= 1160.75$
(€)   *(A1)*   *(C3)*

(b) $\quad 1000\left(1+\dfrac{5}{4\times100}\right)^{4\times t} = 1300$ *(M1)(A1)*

> **Note:** Award *(M1)* for using the compound interest formula with a variable for time, *(A1)* for substituting correct values and equating to 1300.

OR

$I\% = 5$
$PV = \pm1000$
$FV = \mp1300$
$P/Y=1$
$C/Y = 4$ (A1)(M1)

Note: Award *(A1)* for 1300 seen, *(M1)* for the other correct entries.

OR

$I\% = 5$
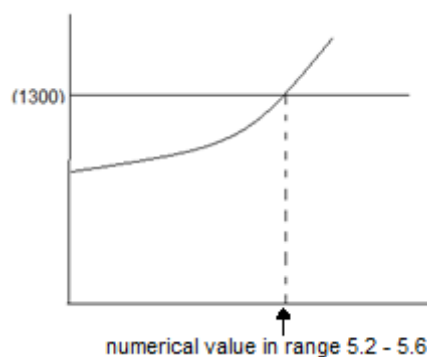$PV = \pm1000$
$FV = \mp1300$
$P/Y= 4$
$C/Y = 4$ (A1)(M1)

Note: Award *(A1)* for 1300 seen, *(M1)* for the other correct entries.

OR

Sketch drawn of two appropriate lines which intersect at a point

(1300)

numerical value in range 5.2 - 5.6

Note: Award *(M1)* for a sketch with a straight line intercepted by appropriate curve, *(A1)* for a numerical answer in the range 5.2 – 5.6.

$t = 5.28$ (years) (5.28001…)
(A1) (C3)

[6 marks]