QUESTION 1.1

Part A ***Financial penalty (FP) applies in parts (b) and (d). Accuracy penalty applies in part (e) if answer not given correct to 2 decimal places***

(a) $4000 \times 0.97 = 3880.00\ (3880)$ ***(M1)(A1)(G2)***

Note: Award ***(M1)*** for multiplication of correct numbers.

OR

$3\,\%\text{ of } 4000 = 120$ ***(A1)***

$4000 - 120 = 3880.00\ (3880)$ ***(A1)(G2)*** ***[2 marks]***

(FP) (b) $3880 \times 0.3071 = 1191.55$ ***(M1)(A1)*(ft)(G2)*** ***[2 marks]***

Note: Award ***(M1)*** for multiplication of correct numbers. Follow through from their answer to part (a).

(c) $\dfrac{400}{0.3125}$ ***(M1)***

$= 1280.00\ (1280)$ ***(A1)(G2)*** ***[2 marks]***

Note: Award ***(M1)*** for division of correct numbers.

(FP) (d) 63.20 ***(A1)*(ft)*** ***[1 mark]***

Note: Follow through (their (c) –1216.80).

(e) $t = \dfrac{63.20 \times 100}{1280}$ ***(M1)***

$t = 4.94$ ***(A1)*(ft)(G2)*** ***[2 marks]***

Note: Follow through from their answers to parts (c) and (d).

continued…

Question 1.1 continued

Part B ***Financial penalty (FP) applies in part (b).***
Accuracy penalty applies in part (c) if answer not given correct to 2 decimal places.

(a) $A = 1000\left(1+\frac{3.5}{2\times 100}\right)^{6} = 1109.7023\ldots$ ***(M1)(A1)(A1)***

$= 1109.70$ ***(AG)***

Notes: Award ***(M1)*** for substitution into correct formula, ***(A1)*** for correct substitution, ***(A1)*** for unrounded answer. If 1109.70 not seen award at most ***(M1)(A1)(A0)***.

OR

$I = 1000\left(1+\frac{3.5}{2\times 100}\right)^{6} - 1000 = 109.7023$ ***(M1)(A1)***

$A = 1109.7023\ldots$ ***(A1)***

$= 1109.70$ ***(AG)*** ***[3 marks]***

Note: Award ***(M1)*** for substitution into correct formula, ***(A1)*** for correct substitution, ***(A1)*** for unrounded answer.

(FP) (b) 109.70 ***(A1)*** ***[1 mark]***

Note: No follow through here.

(c) $\frac{1000\times 3\times r}{100} = 109.70$ ***(A1)(M1)***

$r = 3.66$ ***(A1)*****(ft)*****(G2)*** ***[3 marks]***

Notes: Award ***(A1)*** for 109.70 seen and used, ***(M1)*** for correct substitutions in simple interest formula, ***(A1)*** for answer.
Follow through from their answer to (b).

(A0)(M1)(A0).

Total [16 marks]