1.20 (a)   400 (USD)   *(A1)*   *(C1)*
[1 mark]

(b) $8500(0.95)^t = 400 \times t + 2000$ *(M1)*

Note: Award *(M1)* for equating $8500(0.95)^t$ to $400 \times t + 2000$ or for comparing the difference between the two expressions to zero or for showing a sketch of both functions.

$(t =)8.64$ (months) $\left(8.6414\ldots(\text{months})\right)$ *(A1)*   *(C2)*

Note: Accept 9 months.

[2 marks]

(c) $8500(0.95)^2 - (400 \times 2 + 2000)$ *(M1)(M1)*

Note: Award *(M1)* for correct substitution of $t = 2$ into equation for P, *(M1)* for finding the difference between a value/expression for P and a value/expression for S. The first *(M1)* is implied if 7671.25 seen.

4870 (USD) (4871.25)   *(A1)*   *(C3)*

Note: Accept 4871.3.

[3 marks]

Total [6 marks]