20 Curve **C** has equation $y = f(x)$
The graph of curve **C** has one maximum point.
The coordinates of this maximum point are (3, 5)

(a) Write down the coordinates of the maximum point on the curve with equation

(i) $y = 2f(x)$

(..... , ...)
(1)

(ii) $y = f(x) - 7$

(..... , ...)
(1)

(iii) $y = f(-x)$

(..... , ...)
(1)

Curve **L** has equation $y = x^2 + 7x + 20$

Curve **L** is transformed to curve **S** under the translation $\begin{pmatrix} 2 \\ 0 \end{pmatrix}$

(b) Find an equation for **S**
Give your answer in the form $y = ax^2 + bx + c$

$y =$ .....
(4)

(Total for Question 20 is 7 marks)

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