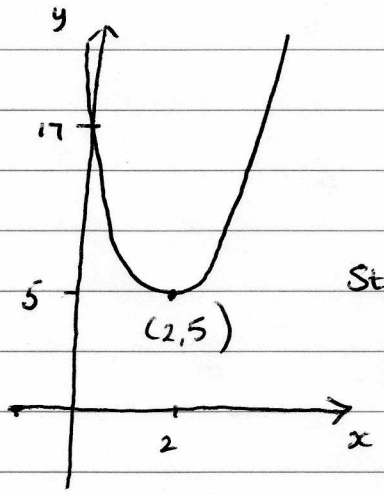
C1 Jan 2009

(4)

$$3x^2 - 12x + 17 \equiv 3\left(x^2 - 4x + \tfrac{17}{3}\right)$$
$$\equiv 3\left((x-2)^2 - 4 + \tfrac{17}{3}\right)$$
$$\equiv 3(x-2)^2 - 12 + 17 \quad (\times 3)$$
$$\equiv 3(x-2)^2 + 5$$

$a = 3 \quad b = -2 \quad c = +5$

min point $(2, 5)$ Intersects y axis at $(0, 17)$



Stationary point is min at $(2, 5)$