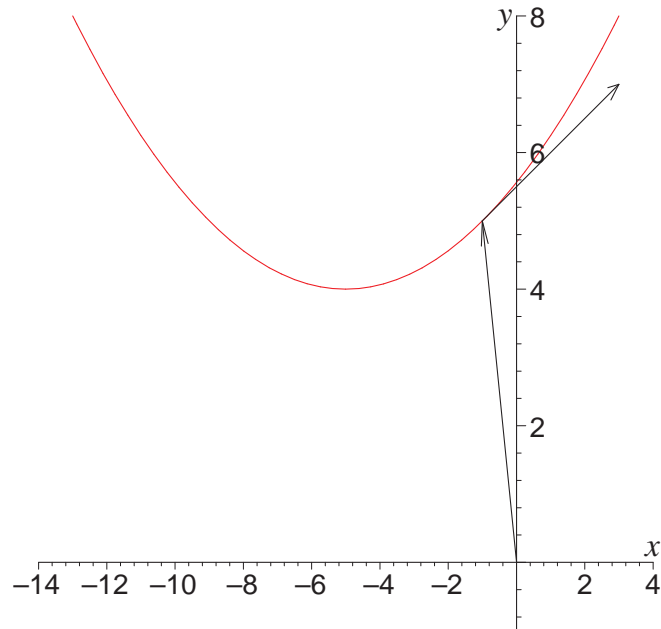Since $\dfrac{(x+5)^2}{16} = t^2 = y - 4 \quad \Rightarrow \quad y = \dfrac{(x+5)^2}{16} + 4$, the curve is a parabola.

(a),(c)

(b) $\mathbf{r}'(t) = \langle 4, 2t \rangle$, $\mathbf{r}'(1) = \langle 4, 2 \rangle$