

**Checkpoint: Derivatives of space curves**

Suppose that  $\mathbf{L}(t)$  is the tangent line to  $\mathbf{r}(t) = \langle \cos(\pi t), \sin(\pi t), 2t \rangle$  at the point where  $t = 2$ . Write the equation for  $\mathbf{L}(t)$  so that  $\mathbf{L}(2) = \mathbf{r}(2)$ .