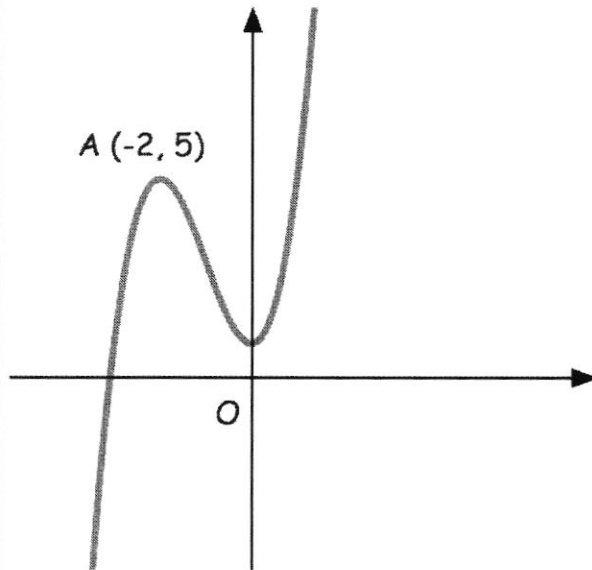


26th May



Corbettmaths

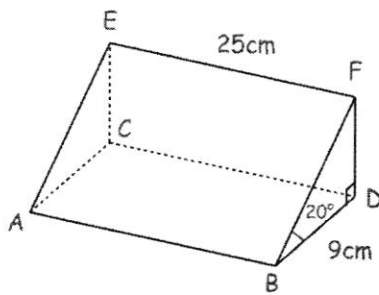


Write down the equation of the tangent to the curve at A

$$\underline{y = 5}$$

Write down the equation of the normal to the curve at A

$$\underline{x = -2}$$



Work out the size of angle CBE

$$CB = \sqrt{25^2 + 9^2} = \sqrt{706}$$

$$CE = 9 \tan 20^\circ$$

$$\tan \theta = \frac{CE}{CB} = 0.1233$$

$$\underline{\theta = 7.03^\circ}$$

The transformation matrix $\begin{pmatrix} -a & 2b \\ -8b & 3a \end{pmatrix}$ maps the point $(-1, -2)$ onto the point $(-12, 32)$

Find the values of a and b

$$\begin{pmatrix} -a & 2b \\ -8b & 3a \end{pmatrix} \begin{pmatrix} -1 \\ -2 \end{pmatrix} = \begin{pmatrix} -12 \\ 32 \end{pmatrix}$$

$$\Rightarrow -a - 4b = -12$$

$$8b - 6a = 32 \Rightarrow \underline{3a - 4b = -16}$$

$$2a = -4$$

$$\Rightarrow \underline{a = -2}$$

$$\underline{b = \frac{5}{2}}$$