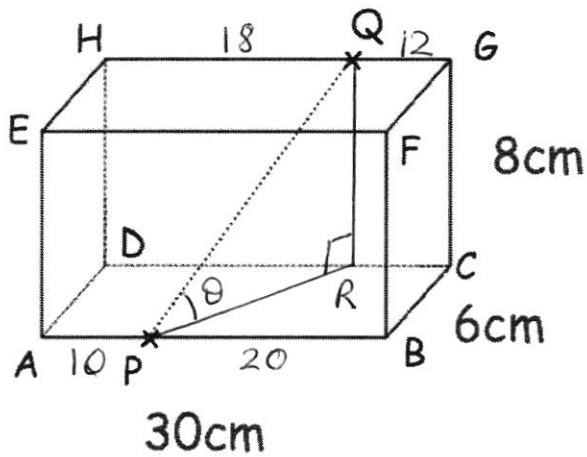


13th November

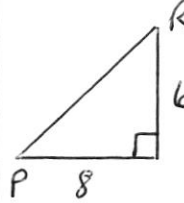


Corbettmaths



P is a point on AB such that AP:PB is 1:2  
 Q is a point on GH such that GQ:QH is 2:3

Calculate the angle between the line PQ and the plane ABCD.



$$PR = 10 \text{ cm}$$

$$\tan \theta = \frac{QR}{PR} = \frac{6}{10}$$

$$\theta = 38.7^\circ$$

$$y = 3x^{\frac{5}{2}}(x^{\frac{1}{2}} + x^{\frac{9}{2}})$$

Work out  $\frac{dy}{dx}$

$$= 3x^3 + 3x^7$$

$$\frac{dy}{dx} = 9x^2 + 21x^6$$

Given that

$$\begin{pmatrix} 5 & 1 \\ -3 & 2 \end{pmatrix} \begin{pmatrix} c \\ d \end{pmatrix} = \begin{pmatrix} d+6 \\ -4c-4d \end{pmatrix}$$

Work out the values of  $c$  and  $d$

$$\begin{aligned} 5c + d &= d + 6 \Rightarrow c = 1.2 \\ -3c + 2d &= -4c - 4d \\ \Rightarrow c &= -6d \\ \Rightarrow d &= -0.2 \end{aligned}$$