

2nd December

Corbettmaths

Write down the coordinates of the minimum point on the curve

$$y = x^2 - 4x - 20$$

$$= (x-2)^2 - 4 - 20$$

$$= (x-2)^2 - 24$$

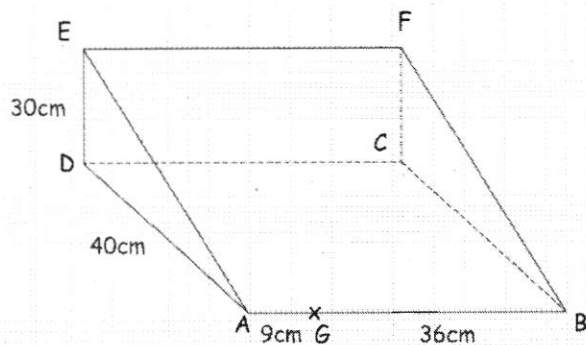
$$\text{Min. } (2, -24)$$

Use Pascal's triangle to expand

$$(3x - 2)^4$$

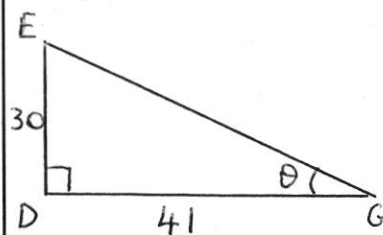
$$\begin{array}{cccccc} 1 & 4 & 6 & 4 & 1 \\ 81x^4 & 27x^3 & 9x^2 & 3x & 1 \\ 1 & -2 & 4 & -8 & 16 \end{array}$$

$$\underline{81x^4 - 216x^3 + 216x^2 - 96x + 16}$$



Calculate the angle between EG and plane ABCD

$$DG = \sqrt{40^2 + 9^2} = 41\text{cm}$$



$$\tan \theta = \frac{30}{41}$$

$$\underline{\theta = 36.2^\circ}$$