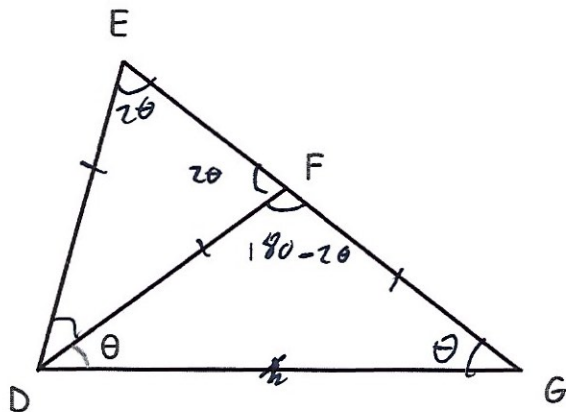


28th January



Corbettmaths

Shown below is triangle DEG



DE = DF = FG

$\angle FDG = \theta$

Prove that $\angle EDF = 180 - 4\theta$

$\angle DGF = \theta$ as $\triangle DFG$ is isosceles.

$\angle DFG = 180 - 2\theta$ as the angles add up to 180° .

$\angle DFE = 2\theta$ as angles in a straight line add up to 180°

$\angle DEF = 2\theta$ as angles $\angle BEF = \angle DFE$ (isosceles)

$\angle EDF = 180 - 4\theta$ as the angles in a triangle add up to 180° .

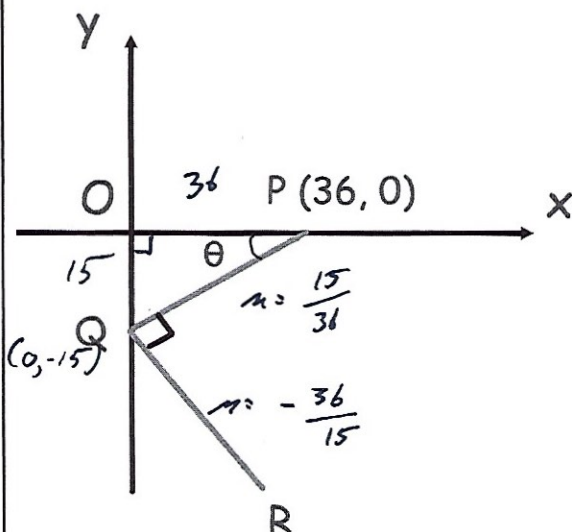
$$y = x^3 + 4x^2 + 2$$

When $x = -2$, show that the value of $\frac{dy}{dx}$ is -4

$$\frac{dy}{dx} = 3x^2 + 8x$$

when $x = -2$

$$\frac{dy}{dx} = 3(-2)^2 + 8(-2) = -4$$



Angle PQR = 90° 5, 12, 13
 0 A H

$$\cos \theta = \frac{12}{13} \text{ A H}$$

Work out the equation of the line QR

$$\text{Gradient of QR} = -\frac{36}{15} = -\frac{12}{5}$$

$$y = -\frac{12}{5}x + c$$

$$y = -\frac{12}{5}x - 15$$