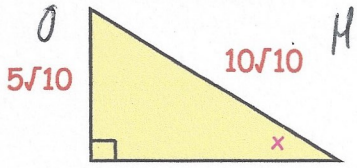
Name: _____ 5-a-day Higher Plus

21st October

Corbettmaths

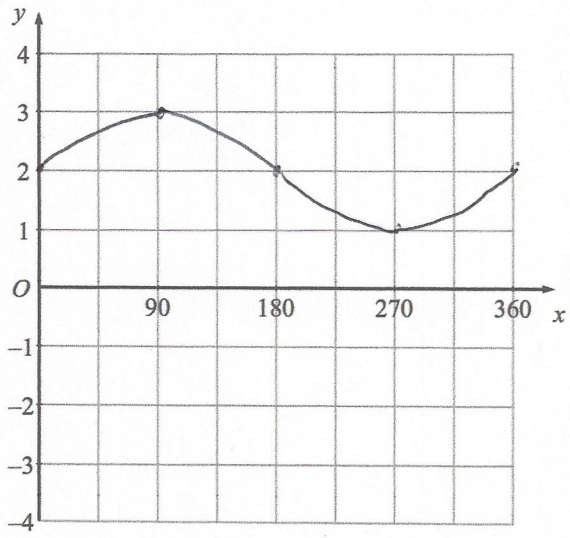


$\sin x = \frac{5\sqrt{10}}{10\sqrt{10}} = \frac{1}{2}$

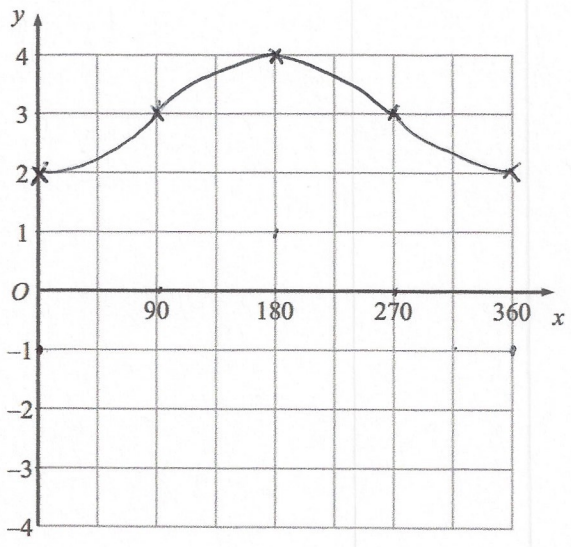
Find x

30°

Sketch $y = 2 + \sin x$



Sketch $y = 3 - \cos x$



Prove algebraically that the sum of the squares of two odd integers is always even.

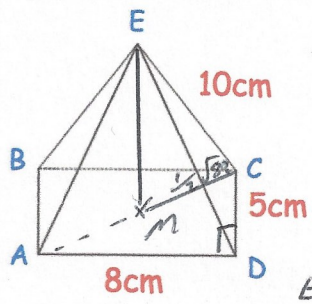
$(2n+1)^2 + (2m+1)^2$

$4n^2 + 4n + 1 + 4m^2 + 4m + 1$

$4n^2 + 4m^2 + 4n + 4m + 2$

$2(2n^2 + 2m^2 + 2n + 2m + 1)$

$\therefore$ even



$AC^2 = 5^2 + 8^2$

$AC = \sqrt{89}$

$AM = \frac{1}{2}\sqrt{89}$

$MC = \frac{1}{2}\sqrt{89}$

$EM^2 = 10^2 - (\frac{1}{2}\sqrt{89})^2$

$EM = 8.817596$

Calculate the volume of the pyramid.

$V = \frac{1}{3}Ah$

$= \frac{1}{3} \times 40 \times 8.817...$

$= 117.568\ cm^3$