

3rd September

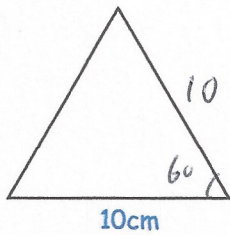


Corbettmaths

Write 2.14444... as a fraction

$$\begin{aligned}
 x &= 2.1444\ldots \\
 10x &= 21.444\ldots \\
 100x &= 214.444\ldots \\
 90x &= 193
 \end{aligned}$$

$$x = \frac{193}{90}$$



Find the area of this equilateral triangle

$$\begin{aligned}
 &\frac{1}{2} \times 10 \times 10 \times \sin 60 \\
 &= 43.3 \text{ cm}^2
 \end{aligned}$$

Here are the first 5 terms of a quadratic sequence

$$an^2 + bn + c$$

4 11 20 31 44

$$\begin{array}{cccccc}
 4 & 11 & 20 & 31 & 44 \\
 & 7 & 9 & 11 & 13 \\
 & & 2 & 2 & 2 \\
 a=1 & b=4 & c=-1
 \end{array}$$

Find an expression, in terms of n, for the nth term of this quadratic sequence.

$$n^2 + 4n - 1$$

Prove that the product of two odd numbers is always odd.

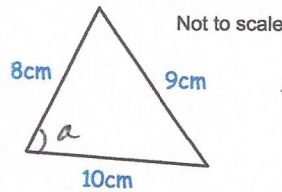
$$\begin{aligned}
 &(2n+1)(2m+1) \\
 &4mn + 2n + 2m + 1 \\
 &\underline{2(2mn + n + m) + 1} \\
 &\text{even}
 \end{aligned}$$

∴ odd.

Find the area of the triangle.

Using Cosine rule

$$\begin{aligned}
 \cos a &= \frac{8^2 + 10^2 - 9^2}{2 \times 8 \times 10} \\
 a &= 58.75156
 \end{aligned}$$



$$\begin{aligned}
 &\frac{1}{2} \times 8 \times 10 \times \sin 58.75\ldots \\
 &34.2 \text{ cm}^2
 \end{aligned}$$