

7th December



Corbettmaths

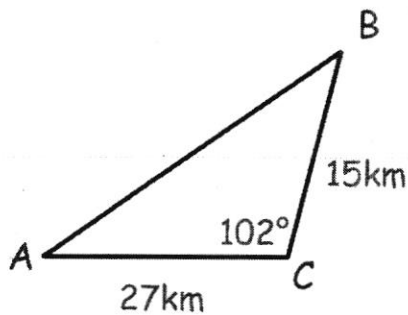
Solve $3(x+1) = 3x^2 + x + 2$

$$3x + 3 = 3x^2 + x + 2$$

$$0 = 3x^2 - 2x - 1$$

$$0 = (x-1)(3x+1)$$

$$x = 1, x = -\frac{1}{3}$$



Work out the direct distance from A to B.

$$AB^2 = 15^2 + 27^2 - 2 \times 15 \times 27 \cos 102^\circ$$

$$= 1122.4 \dots$$

$$AB = 33.5 \text{ km.}$$

Use Pascal's Triangle to work out the coefficient of x^3 in the expansion of $(1+2x)^4$

$$\begin{array}{ccccccc}
 & & & & 1 & & & & \\
 & & & & 1 & & 1 & & \\
 & & & 1 & & 2 & & 1 & \\
 & & 1 & & 3 & & 3 & & 1 \\
 1 & & 4 & & 6 & & 4 & & 1
 \end{array}$$

$$\text{Term in } x^3 = 4(2x)^3 = 32x^3$$

$$\text{Coeff} = 32.$$

Sketch $y = \tan x$ with $-180^\circ \leq x \leq 180^\circ$ 