

Fill in the Blanks

Finding Angles Using Cosine Rule

Labelled diagram	Substitute into formula	Rearrange formula	Angle (1dp)
	$14^2 = 9^2 + 13^2 - 2 \times 9 \times 13 \times \cos x$	$\cos x = \frac{9^2 + 13^2 - 14^2}{2 \times 9 \times 13}$	$x = 76.7^\circ$
	$15^2 = 10^2 + 7^2 - 2 \times 10 \times 7 \times \cos x$	$\cos x = \frac{10^2 + 7^2 - 15^2}{2 \times 10 \times 7}$	$x = 122.9^\circ$
	$4^2 = 7^2 + 8^2 - 2 \times 7 \times 8 \times \cos x$	$\cos x = \frac{7^2 + 8^2 - 4^2}{2 \times 7 \times 8}$	$x = 30.0^\circ$
	$1^2 = 1.3^2 + 1.6^2 - 2 \times 1.3 \times 1.6 \times \cos x$	$\cos x = \frac{1.3^2 + 1.6^2 - 1^2}{2 \times 1.3 \times 1.6}$	$x = 38.6^\circ$
	$4.5^2 = 2^2 + 3^2 - 2 \times 2 \times 3 \times \cos x$	$\cos x = \frac{2^2 + 3^2 - 4.5^2}{2 \times 2 \times 3}$	$x = 127.2^\circ$
	$0.9^2 = 1.2^2 + 1.3^2 - 2 \times 1.2 \times 1.3 \times \cos x$	$\cos x = \frac{1.2^2 + 1.3^2 - 0.9^2}{2 \times 1.2 \times 1.3}$	$x = 42.0^\circ$
	$3^2 = 6^2 + 5^2 - 2 \times 6 \times 5 \times \cos x$	$\cos x = \frac{6^2 + 5^2 - 3^2}{2 \times 6 \times 5}$	$x = 29.9^\circ$