



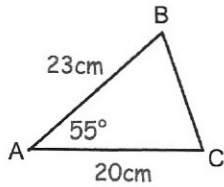
A circle has equation $x^2 + y^2 = 64$

Find the circumference of the circle

$$r = 8$$

$$d = 16$$

$$16\pi$$



$$BC^2 = 23.5^2 + 25^2 - 2 \times 23.5 \times 25 \times \cos 57.5$$

$$BC^2 = 545.9229602$$

$$BC = 23.36499433$$

AB = 23cm to the nearest centimetre.

AC = 20cm to one significant figure

Angle ABC = 55° to the nearest 5°

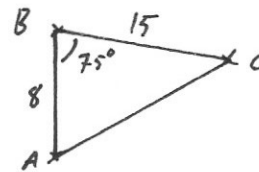
Calculate the largest possible length of BC

$$23.365\text{cm}$$

A helicopter leaves town A and flies 8km due North to town B. The helicopter then flies on a bearing of 105° for 15km until it reaches town C.

Calculate the direct distance from town A to town C.

$$AC^2 = 8^2 + 15^2 - 2 \times 8 \times 15 \cos 75$$



$$15.063\text{km}$$

Work out

$$(\sqrt{8} + \sqrt{12})^2$$

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$$(2\sqrt{2} + 2\sqrt{3})^2$$

$$(2\sqrt{2} + 2\sqrt{3})(2\sqrt{2} + 2\sqrt{3})$$

$$8 + 4\sqrt{6} + 4\sqrt{6} + 12$$

$$20 + 8\sqrt{6}$$

Solve

$$\sqrt[3]{4\sqrt{x} - 11} = 3$$

$$4\sqrt{x} - 11 = 27$$

$$4\sqrt{x} = 38$$

$$\sqrt{x} = 9.5$$

$$x = 90.25$$