20

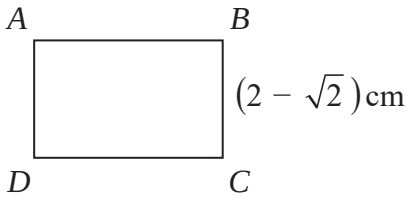

Diagram **NOT** accurately drawn

The diagram shows rectangle *ABCD*.

$AD = BC = (2 - \sqrt{2})$ cm

Area of $ABCD = 3(5\sqrt{2} - 2)$ cm^2

Show that the length of *AB* can be written in the form $(a + b\sqrt{2})$ cm where *a* and *b* are integers to be found.

Show your working clearly.

(Total for Question 20 is 3 marks)