

The function  $f$  is defined by  $f(x) = x^2 - 4x + 8$  for  $x \in \mathbb{R}$ .

(i) Express  $x^2 - 4x + 8$  in the form  $(x - a)^2 + b$ . [2]

[illegible]

**(ii)** Hence find the set of values of  $x$  for which  $f(x) < 9$ , giving your answer in exact form. [3]

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