**1** The complex number *z* is defined by . Given that the real part   
of *z* is ,

**a** find the possible values of *p*. **(4 marks)**

**b** Write the possible values of *z* in the form *a* + *bi*, where *a* and *b* are real. **(1 mark)**

**c** Show your answer to part **b** on an Argand diagram. **(1 mark)**

**2** 

**a** Find *z* in the form *a* + *bi*, where *a* and *b* are real. **(2 marks)**

**b** Given that *z* is a complex root of the quadratic equation    
where *p*, *q* and *r* are integers find possible values of *p, q* and *r*. **(4 marks)**