

**1 In this question you must show detailed reasoning.**

**(i)** Express  $3^{\frac{7}{2}}$  in the form  $a\sqrt{b}$ , where  $a$  is an integer and  $b$  is a prime number. **[2]**

**(ii)** Express  $\frac{\sqrt{2}}{1-\sqrt{2}}$  in the form  $c + d\sqrt{e}$ , where  $c$  and  $d$  are integers and  $e$  is a prime number. **[3]**