

4-12

then

$$\begin{array}{r}
 u^2 - 6u + 4 \\
 u-2 \overline{) u^3 - 8u^2 + 16u - 8} \\
 \underline{u^3 - 2u^2} \phantom{- 8u + 4} \\
 -6u^2 + 16u - 8 \\
 \underline{-6u^2 + 12u} \phantom{- 8} \\
 4u - 8 \\
 \underline{4u - 8} \\
 0
 \end{array}$$

So  $u-2$  is one factor; the remaining term  $u^2 - 6u + 4$  can be solved by the quadratic formula

$$u = \frac{6 \pm \sqrt{36 - 16}}{2} = 3 \pm \sqrt{5}$$

Corresponding to the two extreme values of