

الف) $u^2 - 4u + 1 = 0 \xrightarrow{+1} u^2 - 4u + 4 = 1 \Rightarrow (u-2)^2 = 1 \Rightarrow u-2 = \pm 1 \Rightarrow u = 2 \pm 1$
 $u-2 = 1 \Rightarrow u = 3$, $u-2 = -1 \Rightarrow u = 1$

ب) $u^2 + 11u + 10 = 0 \xrightarrow{+9} u^2 + 11u + 49 = 9 \Rightarrow \sqrt{(u+\frac{11}{2})^2} = \sqrt{9} \Rightarrow u+\frac{11}{2} = \pm 3$
 $u+\frac{11}{2} = 3 \Rightarrow u = -\frac{5}{2}$, $u+\frac{11}{2} = -3 \Rightarrow u = -\frac{17}{2}$

الف) $u^2 - 3u + 4 = 0$ جمع
 $u^2 - 3u + \frac{9}{4} = -\frac{7}{4}$ ضرب $4 \times$
 $4u^2 - 12u + 9 = -7$ $4 \times \sqrt{} \Rightarrow 4u^2 - 12u + 9 = 0 \Rightarrow (u-3)(u-3) = 0 \Rightarrow u-3 = 0 \Rightarrow u = 3$

ب) $u^2 - 3u - 10 = 0$ جمع
 $u^2 - 3u + \frac{9}{4} = \frac{49}{4}$ ضرب $4 \times$
 $4u^2 - 12u + 9 = 49$ $4 \times \sqrt{} \Rightarrow 4u^2 - 12u - 40 = 0 \Rightarrow (u+2)(u-10) = 0 \Rightarrow u+2 = 0 \Rightarrow u = -2$, $u-10 = 0 \Rightarrow u = 10$

الف) $u^2 - 3u - 10 = 0 \Rightarrow \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = u \Rightarrow \frac{3 \pm \sqrt{9 + 40}}{2} = u \Rightarrow \frac{3 \pm \sqrt{49}}{2} = u$
 $u = \frac{3+7}{2} = 5$, $u = \frac{3-7}{2} = -2$

ب) $u^2 - 3u - 10 = 0 \Rightarrow \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = u \Rightarrow \frac{3 \pm \sqrt{9 + 40}}{2} = u \Rightarrow \frac{3 \pm \sqrt{49}}{2} = u$
 $u = \frac{3+7}{2} = 5$, $u = \frac{3-7}{2} = -2$

الف) $u^2 - 3u + 2 = 0 \Rightarrow (u-1)(u-2) = 0 \Rightarrow u-1 = 0 \Rightarrow u = 1$, $u-2 = 0 \Rightarrow u = 2$

ب) $u^2 - 3u - 10 = 0 \Rightarrow (u+2)(u-10) = 0 \Rightarrow u+2 = 0 \Rightarrow u = -2$, $u-10 = 0 \Rightarrow u = 10$

الف) $u^2 - 12u + 20 = 0 \Rightarrow (u-2)(u-10) = 0 \Rightarrow u-2 = 0 \Rightarrow u = 2$, $u-10 = 0 \Rightarrow u = 10$

ب) $u^2 - 10u + 20 = 0 \Rightarrow (u-5)(u-4) = 0 \Rightarrow u-5 = 0 \Rightarrow u = 5$, $u-4 = 0 \Rightarrow u = 4$

