10^{th} Maths - Chapter 4

This is Problem-1(iii) from Exercise 4.2 $(\sqrt{2}x^2 + 7x + 5\sqrt{2}) = 0$

Solution:

$$\begin{pmatrix}
x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}
\end{pmatrix} \tag{1}$$

$$\begin{pmatrix}
x = \frac{-7 \pm \sqrt{-7^2 - 4 \times \sqrt{2} \times 5\sqrt{2}}}{2 \times \sqrt{2}}
\end{pmatrix} \tag{2}$$

$$\begin{pmatrix}
x = \frac{-7 + \sqrt{49 - 40}}{2\sqrt{2}}
\end{pmatrix} \tag{3}$$

$$\begin{pmatrix}
x = \frac{-7 + \sqrt{9}}{2\sqrt{2}}
\end{pmatrix} \tag{4}$$

$$\begin{pmatrix}
x = \frac{-4}{2\sqrt{2}}
\end{pmatrix} \tag{5}$$

$$\begin{pmatrix}
x = \frac{-4 \times 2\sqrt{2}}{2\sqrt{2} \times 2\sqrt{2}}
\end{pmatrix} \tag{6}$$

$$\begin{pmatrix}
x = \frac{-8\sqrt{2}}{8}
\end{pmatrix} \tag{7}$$

$$(x = -\sqrt{2})$$

or

$$\begin{pmatrix}
x = \frac{-7 - \sqrt{49 - 40}}{2\sqrt{2}}
\end{pmatrix} \tag{10}$$

$$\begin{pmatrix}
x = \frac{-7 - \sqrt{9}}{2\sqrt{2}}
\end{pmatrix} \tag{11}$$

$$\begin{pmatrix}
x = \frac{-10}{2\sqrt{2}}
\end{pmatrix} \tag{12}$$

$$\begin{pmatrix}
x = \frac{-10 \times 2\sqrt{2}}{2\sqrt{2} \times 2\sqrt{2}}
\end{pmatrix} \tag{13}$$

$$\begin{pmatrix}
x = \frac{-20\sqrt{2}}{8}
\end{pmatrix} \tag{14}$$

$$\begin{pmatrix}
x = \frac{-5}{\sqrt{2}}
\end{pmatrix} \tag{15}$$

(9)