10^{th} Maths - Chapter 4

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

Solution:

$$\left(x = \frac{-b \pm \sqrt{b^2-4ac}}{2a}\right) \tag{1}$$

$$\left(x = \frac{-7 \pm \sqrt{-7^2-4\times\sqrt{2}\times5\sqrt{2}}}{2\times\sqrt{2}}\right) \tag{2}$$

$$\left(x = \frac{-7+\sqrt{49-40}}{2\sqrt{2}}\right) \tag{3}$$

$$\left(x = \frac{-7+\sqrt{9}}{2\sqrt{2}}\right) \tag{4}$$

$$\left(x = \frac{-4}{2\sqrt{2}}\right) \tag{5}$$

$$\left(x = \frac{-4\times2\sqrt{2}}{2\sqrt{2}\times2\sqrt{2}}\right) \tag{6}$$

$$\left(x = \frac{-8\sqrt{2}}{8}\right) \tag{7}$$

$$\left(x = -\sqrt{2}\right) \tag{8}$$

$$\tag{9}$$

or

$$\left(x = \frac{-7-\sqrt{49-40}}{2\sqrt{2}}\right) \tag{10}$$

$$\left(x = \frac{-7-\sqrt{9}}{2\sqrt{2}}\right) \tag{11}$$

$$\left(x = \frac{-10}{2\sqrt{2}}\right) \tag{12}$$

$$\left(x = \frac{-10\times2\sqrt{2}}{2\sqrt{2}\times2\sqrt{2}}\right) \tag{13}$$

$$\left(x = \frac{-20\sqrt{2}}{8}\right) \tag{14}$$

$$\left(x = \frac{-5}{\sqrt{2}}\right) \tag{15}$$