

16.8 1)

$$(2\eta\mu x - \sqrt{2})(2\sigma\upsilon\nu x + 1) = 0 \Rightarrow$$

$$\Rightarrow 2\eta\mu x - \sqrt{2} = 0 \Rightarrow$$

$$\Rightarrow 2\eta\mu x = \sqrt{2} \Rightarrow \eta\mu x = \frac{\sqrt{2}}{2} \Rightarrow \eta\mu x = \eta\mu \frac{\pi}{4} \Rightarrow$$

$$\Rightarrow x = 2\kappa\pi + \frac{\pi}{4} \quad \text{ή} \quad x = 2\kappa\pi + \pi - \frac{\pi}{4} = 2\kappa\pi + \frac{3\pi}{4} \quad \kappa \in \mathbb{Z}$$

$$\text{ή} \quad 2\sigma\upsilon\nu x + 1 = 0 \Rightarrow$$

$$\Rightarrow 2\sigma\upsilon\nu x = -1 \Rightarrow \sigma\upsilon\nu x = -\frac{1}{2} \Rightarrow \sigma\upsilon\nu x = -\sigma\upsilon\nu \frac{\pi}{3} \Rightarrow$$

$$\Rightarrow \sigma\upsilon\nu x = \sigma\upsilon\nu \left(\pi - \frac{\pi}{3} \right) \Rightarrow \sigma\upsilon\nu x = \sigma\upsilon\nu \frac{2\pi}{3} \Rightarrow$$

$$\Rightarrow x = 2\kappa\pi \pm \frac{2\pi}{3}, \quad \kappa \in \mathbb{Z}$$

16.8 2)

$$(2\eta\mu x - \sqrt{3})(\sigma\varphi x - 1) = 0 \Rightarrow$$

$$2\eta\mu x - \sqrt{3} = 0$$

$$\Rightarrow \eta\mu x = \frac{\sqrt{3}}{2} \Rightarrow \eta\mu x = \eta\mu \frac{\pi}{3}$$

$$\Rightarrow x = 2\kappa\pi + \frac{\pi}{3} \quad \text{ή} \quad x = 2\kappa\pi + \pi - \frac{\pi}{3} \quad \kappa \in \mathbb{Z}$$

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$$\sigma\varphi x - 1 = 0$$

$$\Rightarrow \sigma\varphi x = 1 \Rightarrow \sigma\varphi x = \sigma\varphi \frac{\pi}{4}$$

$$\Rightarrow x = \kappa\pi + \frac{\pi}{4} \quad \kappa \in \mathbb{Z}$$

16.8 3)

$$(\varepsilon\varphi x - 1)(\sigma\varphi x + \sqrt{3}) = 0 \Rightarrow$$

$$\varepsilon\varphi x - 1 = 0$$

$$\Rightarrow \varepsilon\varphi x = 1 \Rightarrow \varepsilon\varphi x = \varepsilon\varphi \frac{\pi}{4}$$

$$\Rightarrow x = \kappa\pi + \frac{\pi}{4} \quad \kappa \in \mathbb{Z}$$

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$$\sigma\varphi x + \sqrt{3} = 0$$

$$\Rightarrow \sigma\varphi x = -\sqrt{3} \Rightarrow \sigma\varphi x = -\sigma\varphi \frac{\pi}{6}$$

$$\Rightarrow \sigma\varphi x = \sigma\varphi \left(-\frac{\pi}{6} \right) \Rightarrow$$

$$\Rightarrow x = \kappa\pi - \frac{\pi}{6} \quad \kappa \in \mathbb{Z}$$

16.8 4)

$$(2\sigma\upsilon\nu x + 1)(3\varepsilon\varphi x - \sqrt{3}) = 0 \Rightarrow$$

$$2\sigma\upsilon\nu x + 1 = 0$$

$$\Rightarrow 2\sigma\upsilon\nu x = -1 \Rightarrow \sigma\upsilon\nu x = -\frac{1}{2} \Rightarrow$$

$$\Rightarrow \sigma\upsilon\nu x = -\sigma\upsilon\nu \frac{\pi}{3} \Rightarrow \sigma\upsilon\nu x = \sigma\upsilon\nu \left(\pi - \frac{\pi}{3} \right)$$

$$\Rightarrow \sigma\upsilon\nu x = \sigma\upsilon\nu \left(\frac{2\pi}{3} \right)$$

$$\Rightarrow x = 2\kappa\pi \pm \frac{2\pi}{3}$$

$$\kappa \in \mathbb{Z}$$

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$$3\varepsilon\varphi x - \sqrt{3} = 0$$

$$\Rightarrow 3\varepsilon\varphi x = \sqrt{3} \Rightarrow \varepsilon\varphi x = \frac{\sqrt{3}}{3}$$

$$\Rightarrow \varepsilon\varphi x = \varepsilon\varphi \frac{\pi}{6}$$

$$\Rightarrow x = \kappa\pi + \frac{\pi}{6}$$

$$\kappa \in \mathbb{Z}$$

16.8 5)

$$\eta\mu x(3\sigma\varphi x - \sqrt{3}) = 0 \Rightarrow$$

$$\eta\mu x = 0$$

$$\Rightarrow x = 2\kappa\pi \quad \text{ή} \quad x = 2\kappa\pi + \pi$$

$$\Rightarrow x = \kappa\pi$$

$$\kappa \in \mathbb{Z}$$

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$$3\sigma\varphi x - \sqrt{3} = 0$$

$$\Rightarrow 3\sigma\varphi x = \sqrt{3} \Rightarrow \sigma\varphi x = \sigma\varphi \frac{\pi}{3}$$

$$\Rightarrow x = \kappa\pi + \frac{\pi}{3}$$

$$\kappa \in \mathbb{Z}$$

16.8 6)

$$(\sqrt{2}\sigma\upsilon\nu x - 1)(2\sqrt{3}\eta\mu x + 3) = 0 \Rightarrow$$

$$\sqrt{2}\sigma\upsilon\nu x - 1 = 0$$

$$\Rightarrow \sqrt{2}\sigma\upsilon\nu x = 1 \Rightarrow \sigma\upsilon\nu x = \frac{1}{\sqrt{2}} \Rightarrow$$

$$\Rightarrow \sigma\upsilon\nu x = \frac{\sqrt{2}}{2} \Rightarrow \sigma\upsilon\nu x = \sigma\upsilon\nu \frac{\pi}{4}$$

$$\Rightarrow x = 2\kappa\pi \pm \frac{\pi}{4}$$

$$\kappa \in \mathbb{Z}$$

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$$2\sqrt{3}\eta\mu x + 3 = 0$$

$$\Rightarrow 2\sqrt{3}\eta\mu x = -3 \Rightarrow 2\sqrt{3} \Rightarrow \eta\mu x = -\frac{3}{2\sqrt{3}}$$

$$\Rightarrow \eta\mu x = -\frac{3\sqrt{3}}{2 \cdot 3} \Rightarrow \eta\mu x = -\frac{\sqrt{3}}{2}$$

$$\Rightarrow \eta\mu x = \eta\mu\left(-\frac{\pi}{3}\right)$$

$$\Rightarrow x = 2\kappa\pi - \frac{\pi}{3} \quad \text{ή} \quad x = 2\kappa\pi + \frac{\pi}{3}$$

$$\kappa \in \mathbb{Z}$$

16.8 7)

$$(2\sigma\upsilon\nu x - \sqrt{2})(\sigma\varphi x + \sqrt{3})\varepsilon\varphi x = 0 \Rightarrow$$

$$2\sigma\upsilon\nu x - \sqrt{2} = 0$$

$$\Rightarrow 2\sigma\upsilon\nu x = \sqrt{2}$$

$$\Rightarrow \sigma\upsilon\nu x = \frac{\sqrt{2}}{2}$$

$$\Rightarrow \sigma\upsilon\nu x = \sigma\upsilon\nu \frac{\pi}{4}$$

$$\Rightarrow x = 2\kappa\pi \pm \frac{\pi}{4}$$

$$\kappa \in \mathbb{Z}$$

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$$\sigma\varphi x + \sqrt{3} = 0$$

$$\Rightarrow \sigma\varphi x = -\sqrt{3}$$

$$\Rightarrow \sigma\varphi x = -\sigma\varphi \frac{\pi}{6}$$

$$\Rightarrow \sigma\varphi x = \sigma\varphi\left(-\frac{\pi}{6}\right)$$

$$\Rightarrow x = \kappa\pi - \frac{\pi}{6}$$

$$\kappa \in \mathbb{Z}$$

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$$\varepsilon\varphi x = 0$$

$$\Rightarrow \varepsilon\varphi x = \varepsilon\varphi 0$$

$$\Rightarrow x = \kappa\pi$$

$$\kappa \in \mathbb{Z}$$