

Ενότητα 11

1. (B) Νόσ
$$\frac{\varepsilon\varphi(180+x) \varepsilon\varphi(90-x)}{\sigma\varphi(180-x) \varepsilon\varphi(-x)} = 1$$

• $\varepsilon\varphi(180+x) = \varepsilon\varphi x$

• $\varepsilon\varphi(90-x) = \sigma\varphi x$

• $\sigma\varphi(180-x) = -\sigma\varphi x$

• $\varepsilon\varphi(-x) = -\varepsilon\varphi x$

$$\frac{\cancel{\varepsilon\varphi x} \cancel{\sigma\varphi x}}{-\cancel{\sigma\varphi x} (-\cancel{\varepsilon\varphi x})} = 1$$

Θυμάσαι

$$I = 1.$$

$$\sigma\omega(-x) = \sigma\omega x$$

$$\eta\rho(n-x) = \eta\rho x$$

$$\varepsilon\varphi(n+x) = \varepsilon\varphi x$$

$$2. \textcircled{B} \quad 2 \eta \rho^2 (\eta + x) + \varepsilon \varphi \left(\frac{\eta}{2} - x \right) \varepsilon \varphi (2\eta - x) + \\ + 2 \eta \rho^2 \left(\frac{\eta}{2} - x \right) = 1$$

$$\bullet \eta \rho (\eta + x) = -\eta \rho x$$

$$\bullet \varepsilon \varphi \left(\frac{\eta}{2} - x \right) = \sigma \varphi x$$

$$\bullet \varepsilon \varphi (2\eta - x) = \varepsilon \varphi (-x) = -\varepsilon \varphi x$$

$$\bullet \eta \rho \left(\frac{\eta}{2} - x \right) = \sigma \omega x$$

$$2. \quad (-\eta \rho x)^2 + \sigma \varphi x (-\varepsilon \varphi x) + 2(\sigma \omega x)^2 =$$

$$= 2\eta \rho^2 x - \varepsilon \varphi x \sigma \varphi x + 2\sigma \omega^2 x$$

$$= 2(\eta \rho^2 x + \sigma \omega^2 x) - 1 = 1$$

$$5. \textcircled{8} \quad \frac{\cos(-135^\circ) - \sin(225^\circ) + \sin 120^\circ}{\cos 225^\circ + \sin 135^\circ + \sin 240^\circ}$$

$$\bullet \cos(-135^\circ) = -\cos 135^\circ = -\cos(180^\circ - 45^\circ) = -\cos 45^\circ = -\frac{\sqrt{2}}{2}$$

$$\bullet \sin(225^\circ) = \sin(180^\circ + 45^\circ) = -\sin 45^\circ = -1$$

$$\bullet \sin 120^\circ = \sin(180^\circ - 60^\circ) = \sin 60^\circ = \frac{1}{2}$$

$$\bullet \cos(225^\circ) = \cos(180^\circ + 45^\circ) = -\cos 45^\circ = -\frac{\sqrt{2}}{2}$$

$$\bullet \sin(135^\circ) = \sin(180^\circ - 45^\circ) = \sin 45^\circ = \frac{1}{2}$$

$$\bullet \sin 240^\circ = \sin(180^\circ + 60^\circ) = -\sin 60^\circ = -\frac{1}{2}$$

$$\frac{-\frac{\sqrt{2}}{2} - 1 + \frac{1}{2}}{-\frac{\sqrt{2}}{2} - 1 - \frac{1}{2}}$$

$$\frac{-\frac{\sqrt{2}}{2} - 1 + \frac{1}{2}}{-\frac{\sqrt{2}}{2} - 1 - \frac{1}{2}}$$

$$= 1$$

$$5. \textcircled{B} \quad \sigma w \frac{5n}{4} - \varepsilon \psi \frac{2n}{3} + \eta \mu \left(-\frac{7n}{6} \right) \quad \underline{\underline{\textcircled{*}}}$$

$$\bullet \sigma w \frac{5n}{4} = \sigma w \frac{4n+n}{4} = \sigma w \left(n + \frac{n}{4} \right) = -\sigma w \frac{n}{4} = -\frac{\sqrt{2}}{2}$$

$$\bullet \varepsilon \psi \frac{2n}{3} = \varepsilon \psi \left(\frac{3n-n}{3} \right) = \varepsilon \psi \left(n - \frac{n}{3} \right) = -\varepsilon \psi \frac{n}{3} \\ = -\sqrt{3},$$

$$\bullet \eta \mu \left(-\frac{7n}{6} \right) = -\eta \mu \left(\frac{7n}{6} \right) = -\eta \mu \left(\frac{6n+n}{6} \right)$$

$$= -\eta \mu \left(n + \frac{n}{6} \right) = \eta \mu \frac{n}{6} = \frac{1}{2}$$

$$\underline{\underline{\textcircled{*}}} \quad -\frac{\sqrt{2}}{2} - (-\sqrt{3}) + \frac{1}{2}$$

$$= -\frac{\sqrt{2}}{2} + \sqrt{3} + \frac{1}{2}$$

7. (B) $\mu_{20} - \sigma_{w40} - \sigma_{w70} + \mu_{50}$
 $= \mu(90-70) - \sigma_w(90-50) - \sigma_{w70} + \mu_{50}$
 $= \cancel{\sigma_{w70}} - \cancel{\mu_{50}} - \cancel{\sigma_{w70}} + \cancel{\mu_{50}}$
 $= 0$

8. (B) $\epsilon_{\varphi} \frac{n}{7} \cdot \epsilon_{\varphi} \frac{3n}{7} \cdot \epsilon_{\varphi} \frac{5n}{14} \epsilon_{\varphi} \frac{n}{14} = 1$

$$\frac{n}{2} - \frac{n}{7} = \frac{7n}{14} - \frac{2n}{14} = \frac{5n}{14}$$

$$\frac{n}{2} - \frac{3n}{7} = \frac{7n}{14} - \frac{6n}{14} = \frac{n}{14}$$

$$\epsilon_{\varphi} \frac{n}{7} \cdot \epsilon_{\varphi} \frac{3n}{7} \epsilon_{\varphi} \left(\frac{n}{2} - \frac{n}{7} \right) \epsilon_{\varphi} \left(\frac{n}{2} - \frac{3n}{7} \right) = 1$$

$$\epsilon_{\varphi} \frac{n}{7} \cdot \epsilon_{\varphi} \frac{3n}{7} \epsilon_{\varphi} \frac{n}{7} \epsilon_{\varphi} \frac{3n}{7} = 1$$

$$1 \cdot 1 = 1$$

