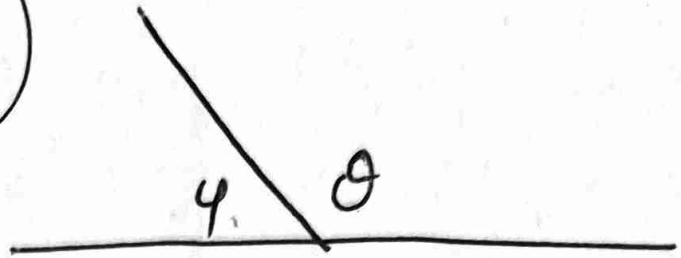


14.

$$\sin \varphi = \frac{4}{5}$$



$$\textcircled{a} \quad \sin^2 \varphi + \cos^2 \varphi = 1$$

$$\left(\frac{4}{5}\right)^2 + \cos^2 \varphi = 1$$

$$\frac{16}{25} + \cos^2 \varphi = 1$$

$$\cos^2 \varphi = \frac{9}{25}$$

$$\cos \varphi = \frac{3}{5}$$

$$\cos \varphi = -\frac{3}{5}$$

$$\cos \varphi = \frac{3}{5}$$

$$\cos(180 - \theta) = \frac{3}{5}$$

$$\cos \theta = \frac{3}{5}$$

$$\sin \varphi = \frac{4}{5}$$

$$\sin(180 - \theta) = \frac{4}{5}$$

$$-\sin \theta = \frac{4}{5}$$

$$\sin \theta = -\frac{4}{5}$$

$$6. \quad \textcircled{a} \quad \sigma_w \frac{3\eta}{4} \quad \eta\mu \frac{5\eta}{6} \quad \varepsilon\psi \frac{2\eta}{3} \quad \underline{\underline{\textcircled{*}}}$$

$$\bullet \quad \sigma_w \left( \frac{3\eta}{4} \right) = \sigma_w \left( \frac{2\eta}{4} + \frac{\eta}{4} \right) = \sigma_w \left( \frac{\eta}{2} + \frac{\eta}{4} \right) =$$

$$= \sigma_w \left( \frac{\eta}{2} - \left( -\frac{\eta}{4} \right) \right) = \eta\mu \left( -\frac{\eta}{4} \right) = -\eta\mu \frac{\eta}{4} = -\frac{\sqrt{2}}{2}$$

$$\bullet \quad \eta\mu \frac{5\eta}{6} = \eta\mu \left( \frac{6\eta}{6} - \frac{\eta}{6} \right) = \eta\mu \left( \eta - \frac{\eta}{6} \right) =$$

$$= \eta\mu \frac{\eta}{6} = \frac{1}{2}$$

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

$$\underline{\underline{\textcircled{*}}} \quad -\frac{\sqrt{2}}{2} \cdot \frac{1}{2} \cdot (-\sqrt{3}) = \frac{\sqrt{6}}{4}$$

$$11. \textcircled{a} \frac{\eta \mu \left( \frac{3\eta}{2} - \theta \right) \sigma w \left( \frac{\eta}{2} + \theta \right) \epsilon \varphi \left( \frac{\eta}{2} - \theta \right)}{\sigma w \left( \frac{5\eta}{2} + \theta \right) \sigma \varphi \left( -\theta \right) \sigma \varphi \left( \frac{\eta}{2} + \theta \right)}$$

$$\begin{aligned} \bullet \eta \mu \left( \frac{3\eta}{2} - \theta \right) &= \eta \mu \left( \frac{2\eta}{2} + \frac{\eta}{2} - \theta \right) = \eta \mu \left( \eta + \frac{\eta}{2} - \theta \right) = \\ &= -\eta \mu \left( \frac{\eta}{2} - \theta \right) = -\sigma w \theta. \end{aligned}$$

$$\begin{aligned} \bullet \sigma w \left( \frac{\eta}{2} + \theta \right) &= \sigma w \left( \frac{\eta}{2} - (-\theta) \right) = \eta \mu \left( -\theta \right) \\ &= -\eta \mu \theta \end{aligned}$$

$$\bullet \epsilon \varphi \left( \cancel{\frac{\eta}{2}} - \theta \right) = \epsilon \varphi \left( -\theta \right) = -\epsilon \varphi \theta$$

$$\begin{aligned} \bullet \sigma w \left( \frac{5\eta}{2} + \theta \right) &= \sigma w \left( \frac{4\eta}{2} + \frac{\eta}{2} + \theta \right) = \sigma w \left( \cancel{2\eta} + \frac{\eta}{2} + \theta \right) \\ &= \sigma w \left( \frac{\eta}{2} - (-\theta) \right) = \eta \mu \left( -\theta \right) = -\eta \mu \theta \end{aligned}$$

$$\bullet \sigma \varphi \left( -\theta \right) = -\sigma \varphi \theta$$

$$\begin{aligned} \bullet \sigma \varphi \left( \frac{\eta}{2} + \theta \right) &= \sigma \varphi \left( \frac{\eta}{2} - (-\theta) \right) = \epsilon \varphi \left( -\theta \right) \\ &= -\epsilon \varphi \theta \end{aligned}$$

$$= \frac{(-\cancel{\sigma\omega\vartheta}) (-\cancel{\eta\mu\vartheta}) (-\cancel{\epsilon\varphi\vartheta})}{\cancel{\eta\mu\vartheta} (-\sigma\varphi\vartheta) (-\epsilon\varphi\vartheta)}$$

$$= - \frac{\eta\mu\vartheta}{\sigma\varphi\vartheta} = - \frac{\eta\mu\vartheta}{\frac{\sigma\omega\vartheta}{\eta\mu\vartheta}}$$

$$= - \frac{\eta\mu^2\vartheta}{\sigma\omega\vartheta}.$$

$$9. \textcircled{or} \mu^2 \frac{n}{12} + \epsilon \psi \frac{n}{8} \epsilon \psi \frac{3n}{8} + \mu^2 \frac{5n}{12}$$

$$\bullet \frac{n}{8} + \frac{3n}{8} = \frac{4n}{8} = \frac{n}{2}$$

$$\frac{n}{8} = \frac{n}{2} - \frac{3n}{8}$$

$$\bullet \frac{n}{12} + \frac{5n}{12} = \frac{6n}{12} = \frac{n}{2}$$

$$\bullet \frac{n}{12} = \frac{n}{2} - \frac{5n}{12}$$

$$\mu^2 \left( \frac{n}{2} - \frac{5n}{12} \right) + \epsilon \psi \left( \frac{n}{2} - \frac{3n}{8} \right) \epsilon \psi \frac{3n}{8} + \mu^2 \frac{5n}{12}$$

$$= \mu^2 \frac{5n}{12} + \epsilon \psi \left( \frac{3n}{8} \right) \epsilon \psi \frac{3n}{8} + \mu^2 \frac{5n}{12}$$

$$= 1 + 1 = 2.$$

13.

$$\sigma_W \omega = \frac{2}{3}$$

$$\textcircled{a} \quad \sigma_W^2 \omega + \eta \rho^2 \omega = 1$$

$$\left(\frac{2}{3}\right)^2 + \eta \rho^2 \omega = 1$$

$$\frac{4}{9} + \eta \rho^2 \omega = 1$$

$$\eta \rho^2 \omega = 1 - \frac{4}{9}$$

$$\eta \rho \omega = \frac{\sqrt{5}}{3}$$

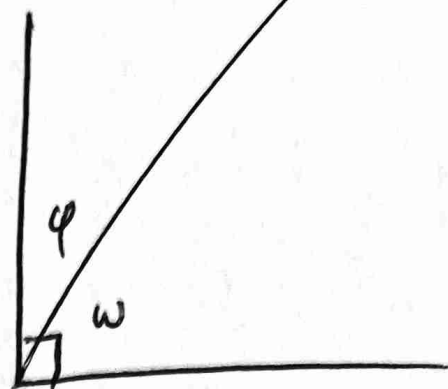
 $\eta$ 

$$\eta \rho \omega = -\frac{\sqrt{5}}{3}$$

$$\sigma_W \omega = \frac{2}{3}$$

$$\sigma_W (90 - \varphi) = \frac{2}{3}$$

$$\eta \rho \varphi = \frac{2}{3}$$

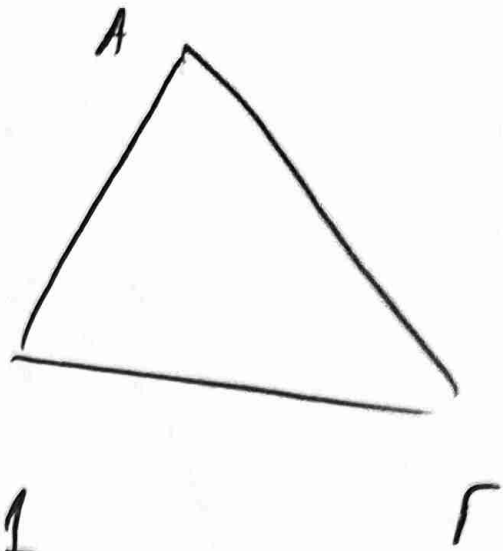


$$\eta \rho \omega = \frac{\sqrt{5}}{3}$$

$$\eta \rho (90 - \varphi) = \frac{\sqrt{5}}{3}$$

$$\sigma_W \varphi = \frac{\sqrt{5}}{3}$$

15.



$$(a) \text{ N.S.O } \mu^2 A + \sigma w^2 (B+C) = 1.$$

$$A+B+C=180$$

$$B+C=180-A$$

$$\mu^2 A + \sigma w^2 (180-A) = 1$$

$$\mu^2 A + (-\sigma w A)^2 = 1$$

$$\mu^2 A + \sigma w^2 A = 1$$

$$1 = 1.$$

$$B) \text{ rdo } \csc \frac{A}{2} \cdot \csc \frac{B+C}{2} = 1$$

$$A+B+C=180$$

$$\frac{A}{2} + \frac{B+C}{2} = 90$$

$$\frac{B+C}{2} = 90 - \frac{A}{2}$$

$$\csc \frac{A}{2} \cdot \csc \left( 90 - \frac{A}{2} \right) = 1$$

$$\csc \frac{A}{2} \sec \frac{A}{2} = 1$$

$$1 = 1$$