

Евотита 9

1. $AB^2 + Ar^2 = Br^2$

$$AB^2 + 8^2 = 10^2$$

$$AB^2 + 64 = 100$$

$$AB^2 = 36$$

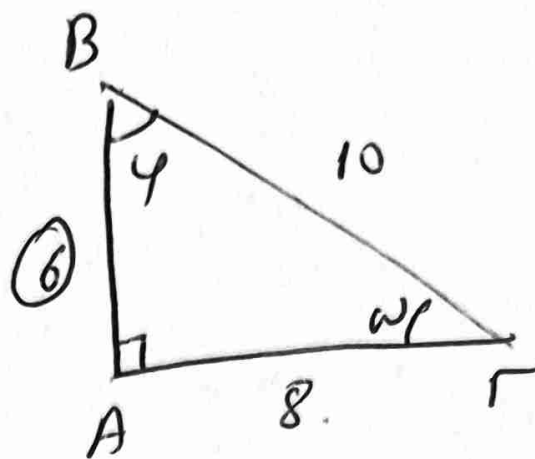
$$\underline{\underline{AB = 6}}$$

$$\eta p \varphi = \frac{8}{10}$$

$$\sigma w \varphi = \frac{6}{10}$$

$$\varepsilon \varphi \varphi = \frac{8}{6}$$

$$\sigma \varphi \varphi = \frac{6}{8}$$



$$\eta p w = \frac{6}{10}$$

$$\sigma w w = \frac{8}{10}$$

$$\varepsilon \varphi w = \frac{6}{8}$$

$$\sigma \varphi w = \frac{8}{6}$$

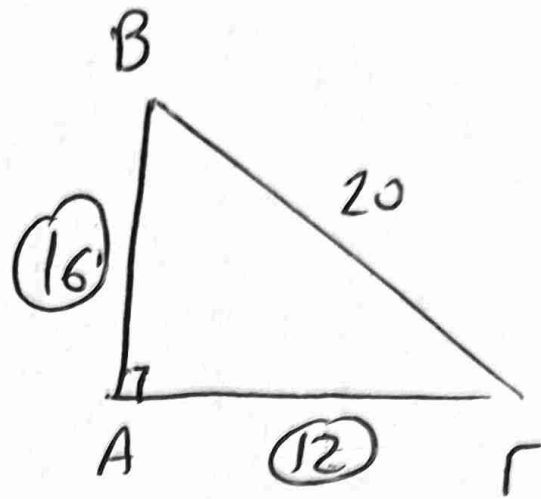
2. $\sin \hat{B} = \frac{3}{5}$

$$\sin \hat{B} = \frac{AR}{20}$$

$$\frac{3}{5} = \frac{AR}{20}$$

$$60 = 5AR$$

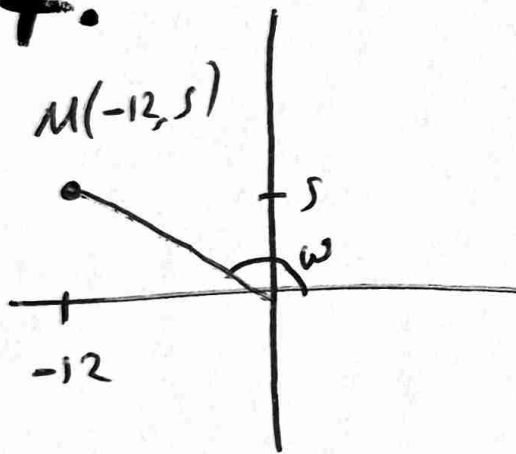
$$\underline{\underline{AR = 12}}$$



$$12^2 + AB^2 = 20^2$$

$$\underline{\underline{AB = 16}}$$

7.



$$r = \sqrt{x^2 + y^2}$$

$$r = \sqrt{144 + 25}$$

$$r = \sqrt{169}$$

$$\underline{\underline{r = 13}}$$

$$\sin \hat{w} = \frac{y}{r} = \frac{5}{13}$$

$$\cos \hat{w} = \frac{x}{r} = \frac{-12}{13}$$

$$\tan \hat{w} = \frac{y}{x} = \frac{5}{-12}$$

$$\cot \hat{w} = \frac{x}{y} = \frac{-12}{5}$$

$$11. \quad 0^\circ = 0 \text{ rad}$$

$$135^\circ = \frac{3\pi}{4}$$

$$210^\circ = \frac{7\pi}{6}$$

$$12. \quad (a) \quad \frac{2\pi}{3} = 120^\circ$$

$$(b) \quad \frac{7\pi}{6} = 210^\circ$$

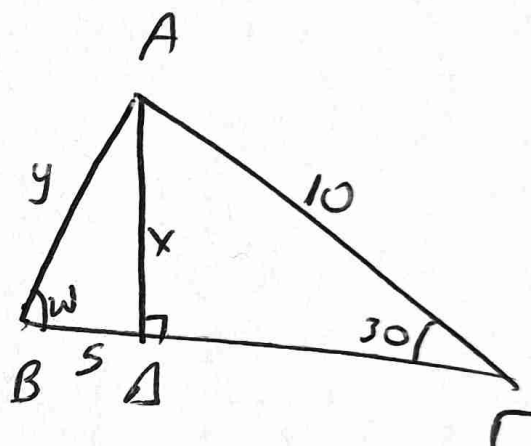
$$18. \quad \sin 30^\circ = \frac{x}{AR}$$

$$\Rightarrow \frac{1}{2} = \frac{x}{10}$$

$$\underline{\underline{x = 5}}$$

$$\sin \phi = \frac{5}{5} = 1$$

$$\underline{\underline{\omega = u/r}}$$



$$5^2 + 5^2 = y^2$$

$$50 = y^2$$

$$\underline{\underline{y = 5\sqrt{2}}}$$

Υπολογισμός μ και σ γωνίας

$$3650^\circ = 10 \cdot 360 + 50$$

$$\eta\mu 3650 = \eta\mu 50$$

$$\sigma\omega 3650 = \sigma\omega 50$$

$$\varepsilon\varphi 3650 = \varepsilon\varphi 50$$

$$\sigma\varphi 3650 = \sigma\varphi 50$$

$$\frac{62\pi}{3} = \frac{60\pi + 2\pi}{3} = \frac{60\pi}{3} + \frac{2\pi}{3} = 20\pi + \frac{2\pi}{3}$$

$$= \cancel{2 \cdot 10\pi} + \frac{2\pi}{3}$$

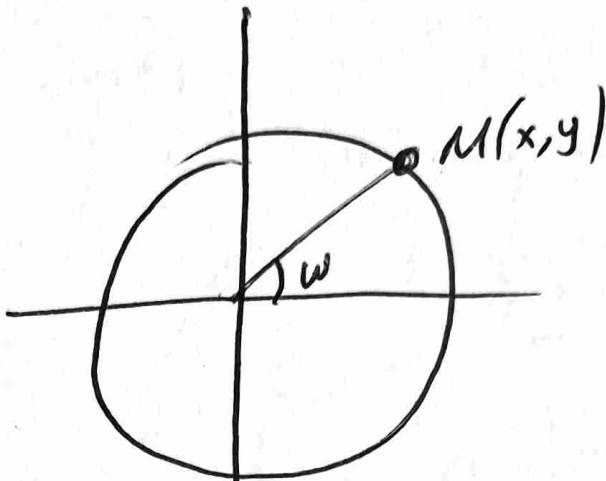
$$\eta\mu \frac{62\pi}{3} = \eta\mu \frac{2\pi}{3} = -\frac{\sqrt{3}}{2}$$

$$\omega p^2 \omega + \sigma \omega^2 \omega = 1$$

Анодуз

$$\omega p \omega = \frac{|y|}{\rho} = \frac{|y|}{1} = |y|$$

$$\sigma \omega \omega = \frac{|x|}{\rho} = \frac{|x|}{1} = |x|$$



$$\omega p^2 \omega + \sigma \omega^2 \omega = |y|^2 + |x|^2 = \rho^2 = \underline{\underline{1}}$$

$$\rho = \sqrt{x^2 + y^2}$$

$$\rho^2 = x^2 + y^2$$

1.

(B)

$$\sigma \omega^1 = -\frac{5}{13}$$

$$180 < \omega < 270$$

30,

$$\eta p^2 \omega + \sigma \omega^2 \omega = 1$$

$$\eta p^2 \omega + \left(-\frac{5}{13}\right)^2 = 1$$

$$\eta p^2 \omega + \frac{25}{169} = 1$$

$$\eta p^2 \omega = 1 - \frac{25}{169}$$

$$\eta p^2 \omega = \frac{169}{169} - \frac{25}{169}$$

$$\eta p^2 \omega = \frac{144}{169}$$

$$\eta p \omega = \frac{12}{13}$$

$$\eta p \omega = -\frac{12}{13}$$

$$\varepsilon \varphi \omega^1 = \frac{\eta p \omega}{\sigma \omega \omega} = \frac{-\frac{12}{13}}{-\frac{5}{13}}$$

$$\varepsilon \varphi \omega^1 = \frac{12}{5}$$

$$\sigma \varphi \omega^1 = \frac{5}{12}$$

$$2. \quad (b) \quad \sigma_{\varphi X} = \frac{\sqrt{2}}{4}$$

$$\frac{180 < X < 270}{30}$$

$$\varepsilon_{\varphi X} = \frac{4}{\sqrt{2}} = \frac{4\sqrt{2}}{2} = 2\sqrt{2}$$

$$\sigma_{W^2 X} = \frac{1}{1 + (2\sqrt{2})^2} = \frac{1}{1 + 8} = \frac{1}{9}$$

$$\sigma_{WX} = \frac{1}{3}$$

∴

$$\sigma_{WX} = -\frac{1}{3}$$

$$\varepsilon_{\varphi X} = \frac{\eta_{\varphi X}}{\sigma_{WX}}$$

$$2\sqrt{2} = \frac{\eta_{\varphi X}}{-\frac{1}{3}} \quad (=)$$

$$-\frac{1}{3} \cdot 2\sqrt{2} = \eta_{\varphi X}$$

$$\eta_{\varphi X} = -\frac{2\sqrt{2}}{3}$$

4.

$$\varepsilon \varphi x = 9 \sigma \varphi x$$

$$\underbrace{\pi < x < \frac{3\pi}{2}}_{30}$$

$$A = \frac{1 + \eta \varphi x \cdot \sigma \omega x}{1 + \sigma \varphi x}$$

$$\varepsilon \varphi x = 9 \cdot \frac{1}{\varepsilon \varphi x}$$

$$\varepsilon \varphi^2 x = 9$$

$$\varepsilon \varphi x = 3$$

$$\sigma \varphi x = \frac{1}{3}$$

$$\varepsilon \varphi x \neq -3$$

$$\sigma \omega^2 x = \frac{1}{1 + 3^2} = \frac{1}{10}$$

$$\sigma \omega x = \frac{1}{\sqrt{10}}$$

$$\sigma \omega x = -\frac{1}{\sqrt{10}}$$

$$\varepsilon \varphi x = \frac{\eta \varphi x}{\sigma \omega x}$$

$$3 = \frac{\eta \varphi x}{-\frac{1}{\sqrt{10}}}$$

$$\Rightarrow \eta \varphi x = -\frac{3}{\sqrt{10}}$$

$$A = \frac{1 + \left(-\frac{3}{\sqrt{10}}\right) \left(-\frac{1}{\sqrt{10}}\right)}{1 + \frac{1}{3}}$$

$$A = \frac{1 + \frac{3}{10}}{1 + \frac{1}{3}} = \frac{\frac{13}{10}}{\frac{4}{3}} = \frac{39}{40},$$

5.

(B)

$$3\sigma\omega^2x + 7\eta\mu x - 5 = 0$$

$$x \in (\frac{1}{2}, 1)$$

$$\eta\mu^2x + \sigma\omega^2x = 1$$

$$\sigma\omega^2x = 1 - \eta\mu^2x$$

20

$$3(1 - \eta\mu^2x) + 7\eta\mu x - 5 = 0$$

$$3 - 3\eta\mu^2x + 7\eta\mu x - 5 = 0$$

$$-3\eta\mu^2x + 7\eta\mu x - 2 = 0$$

$$\text{ОСЛУ } \eta\mu x = t$$

$$-3t^2 + 7t - 2 = 0$$

$$\Delta = 49 - 24 = 25$$

$$t = \frac{-7 \pm 5}{-6} < \frac{1}{3}$$

$$t = 2$$

$$t = \frac{1}{3}$$

$$\eta\mu x = \frac{1}{3}$$

$$\eta\mu x = 2$$

$$-1 \leq \eta\mu x \leq 1$$

$$\mu p^2 x + \sigma w^2 x = 1$$

$$\frac{1}{9} + \sigma w^2 x = 1$$

$$\sigma w^2 x = 1 - \frac{1}{9}$$

$$\sigma w^2 x = \frac{8}{9}$$

~~$$\sigma w x = \frac{2\sqrt{2}}{3}$$~~

$$\sigma w x = -\frac{2\sqrt{2}}{3}$$

$$\varepsilon \varphi x = \frac{\mu x}{\sigma w x} = \frac{\frac{1}{3}}{-\frac{2\sqrt{2}}{3}} = -\frac{1}{2\sqrt{2}}$$

$$\varepsilon \varphi x = -2\sqrt{2}$$

7. $A \vee \pi \subset X \subset \frac{3\pi}{2}$

$$2\varepsilon\varphi^2x + \frac{3}{\sigma\omega^2x} = 8$$

$$A = \varepsilon\varphi x - \sqrt{2} \sigma\omega x + \sigma\varphi x$$

$$A\varphi\omega \quad \sigma\omega^2x = \frac{1}{1+\varepsilon\varphi^2x}$$

$$2\varepsilon\varphi^2x + \frac{3}{\frac{1}{1+\varepsilon\varphi^2x}} = 8$$

$$2\varepsilon\varphi^2x + 3(1+\varepsilon\varphi^2x) = 8$$

$$2\varepsilon\varphi^2x + 3 + 3\varepsilon\varphi^2x = 8$$

$$5\varepsilon\varphi^2x = 5$$

$$\varepsilon\varphi^2x = 1$$

$$\varepsilon\varphi x = 1$$

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

$$\sigma\omega^2x = \frac{1}{1+1} = \frac{1}{2}$$

$$\sigma\omega x = \frac{1}{\sqrt{2}}$$

$$\sigma\omega x = \frac{1}{-\sqrt{2}}$$

$$A = \epsilon \phi x - \sqrt{2} \sin x + \delta \phi x$$

$$A = 1 - \sqrt{2} \cdot \left(-\frac{1}{\sqrt{2}}\right) + 1$$

$$A = 2 + 1 = 3.$$

$$8. \quad \textcircled{B} \quad u p x = -\frac{3}{5}$$

$$\sigma w x = \frac{4}{5}.$$

$$u p^2 x + \sigma w^2 x = 1$$

$$\left(-\frac{3}{5}\right)^2 + \left(\frac{4}{5}\right)^2 = 1$$

$$\frac{9}{25} + \frac{16}{25} = 1$$

$$\frac{25}{25} = 1$$



$$\textcircled{B} \quad u p x = -1$$

$$\sigma w x = -1$$

$$u p^2 x + \sigma w^2 x = 1$$

$$(-1)^2 + (-1)^2 = 1$$

$$1 + 1 = 1$$

$$2 = 1$$

Δηλαδή υπάρχει
τέτοια λύση

X,

Τριγωνομετρικά ταυτοσώματα

$$1. \quad \eta\rho^2 x + \sigma\omega^2 x = 1$$

$$2. \quad \epsilon\varphi x = \frac{\eta\rho x}{\sigma\omega x} \qquad \sigma\varphi x = \frac{\sigma\omega x}{\eta\rho x}$$

$$3. \quad \epsilon\varphi x \cdot \sigma\varphi x = 1.$$

$$4. \quad \sigma\omega^2 x = \frac{1}{1 + \epsilon\varphi^2 x}$$

$$5. \quad \eta\rho^2 x = \frac{\epsilon\varphi^2 x}{1 + \epsilon\varphi^2 x}.$$

Επορας Μαθημα

9

(20) α) $i) 390$ $ii) 1140$ $iii) -1035.$

β) $i) \frac{7n}{2}$ $ii) \frac{25n}{4}$ $iii) -\frac{23n}{6}$

(21)

(22)