

ΑΡΑΒΗΕΙΣ Β' ΓΥΜ. ΖΥΓ

Άσκηση 1

$$\frac{x+2}{3} - \frac{x-2}{2} > \frac{x}{6}$$

$$\frac{x+\frac{1}{2}}{6} - \frac{x-5}{12} + \frac{x+\frac{2}{3}}{4} - \frac{1}{4} > 0$$

$$EKT(2,3,6) = 6$$

$$EKT(4,6,2) = 12$$

$$2 \cdot \frac{x+2}{3} - 3 \cdot \frac{x-2}{2} > 6 \cdot \frac{x}{6}$$

$$12 \cdot \frac{x+\frac{1}{2}}{6} + 12 \cdot \frac{x-5}{12} + 12 \cdot \frac{x+\frac{2}{3}}{4} - 12 \cdot \frac{1}{4} > 0$$

$$2(x+2) - 3(x-2) > x$$

$$2(x+\frac{1}{2}) + x-5 - 3(x+\frac{2}{3}) - 2 > 0$$

$$2x+4 - 3x+6 > x$$

$$2x+2 \cdot \frac{1}{2} + x-5 + 3x+3 \cdot \frac{2}{3} - 2 > 0$$

$$2x - 3x - x > -4 - 6$$

$$2x + 1 + x - 5 + 3x + 2 - 2 > 0$$

$$-2x > -10$$

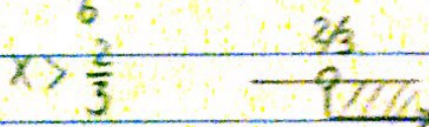
$$6x - 4 > 0$$

$$x < \frac{-10}{-2}$$

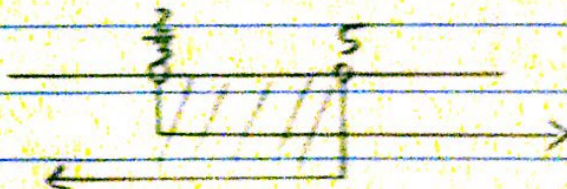
$$6x > 4$$

$$x < 5$$

$$x > \frac{4}{6}$$

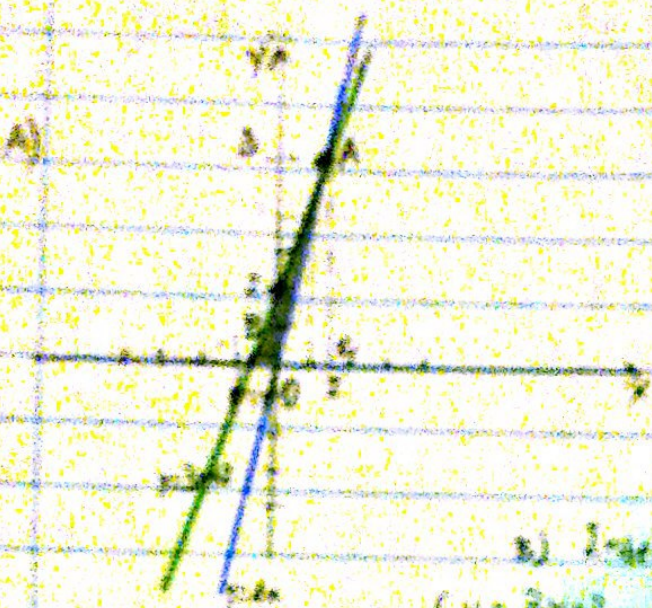


ΚΟΙΝΗΣ ΑΓΩΓΗΣ:



$$\frac{2}{3} < x < 5$$

Contoh 2.



$$y = 3x + 2$$

$$\begin{array}{r} 3x + 2 \\ \hline y \end{array}$$

$$y = 4x$$

$$\begin{array}{r} 4x \\ \hline y \end{array}$$

B) Titik potong A:

$$\begin{cases} y = 3x + 2 \\ y = 4x \end{cases} \Rightarrow 3x + 2 = 4x$$

$$3x - 4x = -2$$

Titik $y = 4 \cdot 2 = 8$

$$\frac{-x - 2}{x = 2}$$

atau $A(2, 8)$.

1) Titik $y = 0$

$$3x + 2 = 0$$

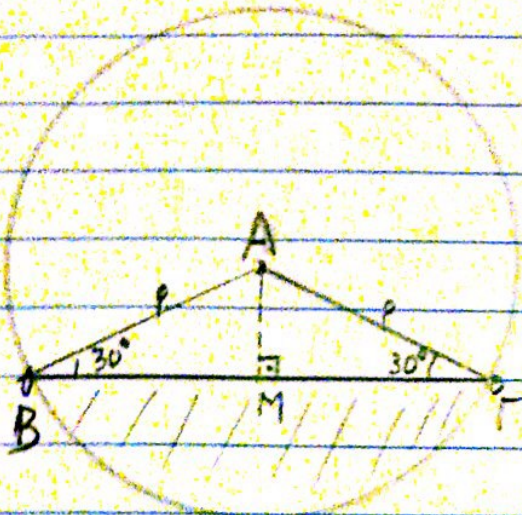
$$3x = -2$$

$$x = -\frac{2}{3} \text{ atau } B(-\frac{2}{3}, 0)$$

$$(ACB) = \frac{(OB) \cdot (AC)}{2} = \frac{\frac{2}{3} \cdot 8}{2} = \frac{2 \cdot 4}{3} = \frac{8}{3} \text{ r.p.}$$

Άσκηση 3

$\rho = 10 \text{ cm}$



A) $\widehat{BG} = 120^\circ \Rightarrow \angle BGA = 120^\circ$
 $AB = AG = \rho$ από $\triangle ABG$ ισόσκελο
 τότε $\hat{B} = \hat{G} = \frac{180^\circ - 120^\circ}{2} = \frac{60^\circ}{2}$

$AM \perp BG$ (όσοι ακτίνες)

$\sin 30^\circ = \frac{AM}{AB} \Leftrightarrow \frac{1}{2} = \frac{AM}{\rho}$

120°

$2AM = 10 \Rightarrow AM = \frac{10}{2} = 5 \text{ cm}$

$\sin 30^\circ = \frac{BM}{AB} \Leftrightarrow \frac{\sqrt{3}}{2} = \frac{BM}{\rho} \Rightarrow 2BM = 10\sqrt{3} \Rightarrow BM = \frac{10\sqrt{3}}{2} = 5\sqrt{3} \text{ cm}$

Από $BG = 2BM = 2 \cdot 5\sqrt{3} = 10\sqrt{3} \text{ cm}$

τότε $(ABG) = \frac{BG \cdot AM}{2} = \frac{10\sqrt{3} \cdot 5}{2} = \frac{50\sqrt{3}}{2} = 25\sqrt{3} \text{ cm}^2$

B) $E_{\text{Α.ΒΓ}} = \frac{\pi \rho^2 \rho^\circ}{360^\circ} = \frac{\pi 10^2 \cdot 120^\circ}{360^\circ} = \frac{100\pi}{3} \text{ cm}^2$

Γ) $E_{\text{κυκλ. τμ.}} = E_{\text{Α.ΒΓ}} - (ABG) = \left(\frac{100\pi}{3} - 25\sqrt{3} \right) \text{ cm}^2$