

Β ΛΥΚΕΙΟΥ ΘΕΤΙΚΟΣ ΠΡΟΣΑΝΑΤΟΛΙΣΜΟΣ

4.27 1)

$$\begin{aligned} |\overrightarrow{AB}| = 5 &\Leftrightarrow (AB) = 5 \Leftrightarrow \sqrt{(x-2)^2 + (5-1)^2} = 5 \Leftrightarrow \sqrt{x^2 - 4x + 4 + 16} = 5 \Leftrightarrow x^2 - 4x + 20 = 25 \Leftrightarrow \\ &\Leftrightarrow x^2 - 4x - 5 = 0 \Leftrightarrow \dots \Leftrightarrow x = -1 \quad \text{ή} \quad x = 5 \end{aligned}$$

4.27 2)

$$\begin{aligned} (AB) = 13 &\Leftrightarrow \sqrt{(x+4)^2 + (-3-2)^2} = 13 \Leftrightarrow \sqrt{(x+4)^2 + 5^2} = 13 \Leftrightarrow \\ &\Leftrightarrow (x+4)^2 + 25 = 169 \Leftrightarrow (x+4)^2 = 144 \Leftrightarrow |x+4| = 12 \Leftrightarrow x = 8 \quad \text{ή} \quad x = -16 \end{aligned}$$

4.27 3)

$$\begin{aligned} (AB) = 10 &\Leftrightarrow \sqrt{(5-(-3))^2 + (y-4)^2} = 10 \Leftrightarrow \sqrt{64 + (y-4)^2} = 10 \Leftrightarrow \\ &\Leftrightarrow 64 + (y-4)^2 = 100 \Leftrightarrow (y-4)^2 = 36 \Leftrightarrow |y-4| = 6 \Leftrightarrow y = 10 \quad \text{ή} \quad y = -2 \end{aligned}$$

4.27 4)

$$\begin{aligned} (AB) = \sqrt{5} &\Leftrightarrow \sqrt{(1-x)^2 + (2-4)^2} = \sqrt{5} \Leftrightarrow \sqrt{(1-x)^2 + 4} = \sqrt{5} \Leftrightarrow \\ &\Leftrightarrow (1-x)^2 + 4 = 5 \Leftrightarrow (1-x)^2 = 1 \Leftrightarrow |1-x| = 1 \Leftrightarrow x = 0 \quad \text{ή} \quad x = 2 \end{aligned}$$