

Γ ΛΥΚΕΙΟΥ ΜΕΡΟΣ Α

15.34 1)

Είναι $f'(x) = 3(2\alpha - 1)x^2 + 4x - 1 \Rightarrow f''(x) = 6(2\alpha - 1)x + 4$, οπότε

$$f''(2) = 16 \Rightarrow 6(2\alpha - 1) \cdot 2 + 4 = 16 \Rightarrow 12(2\alpha - 1) = 16 - 4 \Rightarrow 24\alpha - 12 = 16 - 4 \Rightarrow$$

$$\Rightarrow 24\alpha = 12 + 12 \Rightarrow 24\alpha = 24 \Rightarrow \alpha = 1$$

15.34 2)

Είναι $f'(x) = 3\alpha x^2 - 2x + 4 \Rightarrow f''(x) = 6\alpha x - 2$, οπότε

$$f''(-1) = 10 \Rightarrow 6\alpha \cdot (-1) - 2 = 10 \Rightarrow -6\alpha = 10 + 2 \Rightarrow -6\alpha = 12 \Rightarrow \alpha = -2$$

15.34 3)

Είναι $f'(x) = 4x^3 - 3\alpha x^2 - 8x + 1 \Rightarrow f''(x) = 12x^2 - 6\alpha x - 8$, οπότε

$$f''(1) = 4 \Rightarrow 12 \cdot 1^2 - 6\alpha \cdot 1 - 8 = 4 \Rightarrow 12 - 6\alpha - 8 = 4 \Rightarrow 12 - 6\alpha = 12 \Rightarrow$$

$$\Rightarrow -6\alpha = 0 \Rightarrow \alpha = 0$$

15.34 4)

Είναι $f'(x) = 2x + \frac{\alpha}{x} \Rightarrow f''(x) = 2 - \frac{\alpha}{x^2}$, οπότε

$$f''(3) = 1 \Rightarrow 2 - \frac{\alpha}{3^2} = 1 \Rightarrow -\frac{\alpha}{9} = -1 \Rightarrow \alpha = 9$$