

19, 5

موضوع: علی خزان - طیف 14

$$y_{max} = \frac{-\Delta}{ka} = \frac{ka - b^2}{ka} \leq \frac{k(-3) - b^2}{-k} \leq v \quad (2) - 1$$

$$\frac{-12 - b^2}{-k} \leq v \rightarrow -12 - b^2 \leq -28 \rightarrow b^2 \leq 16 \rightarrow b \leq \pm 4 \quad \checkmark$$

$$f(x) \leq x^2 + 2x + 3 \rightarrow x^2 \leq 8 \quad (2) - 2$$

$$\rightarrow x^2 + 2x + 3 \leq 0 \rightarrow \Delta < 0 \rightarrow \text{معادله حقیقی ندارد} \quad \checkmark$$

$$f(x) \leq x^2 \rightarrow x^2 - 2x - 1 \leq 0 \rightarrow (x-1)(x+3) \leq 0$$

$$f(x) \leq 1 \rightarrow x^2 \leq 1 \quad \text{GUE}$$

$$f(x) \leq -3 \rightarrow x^2 \leq v \rightarrow x \leq \pm \sqrt{v} \quad \checkmark$$

$$\beta \leq \alpha + 2 \rightarrow 5 \leq \frac{b}{a} \leq \frac{14}{k} \leq k \quad (2) - 3$$

$$\rightarrow \alpha + 2 + \alpha \leq 2\alpha + 2 \leq k \rightarrow 2\alpha \leq 2 \rightarrow \alpha \leq 1 \rightarrow \beta \leq 3 \quad \checkmark$$

$$\alpha \beta \leq \frac{c}{a} \rightarrow \frac{m}{k} \leq 3 \rightarrow m \leq 12 \quad \checkmark$$

$$\beta \leq \alpha - k \rightarrow \alpha - k + \alpha \leq 2\alpha - k \leq 2 \rightarrow \alpha \leq 2 \rightarrow \beta \leq 0 \quad (2) - 4$$

$$\rightarrow \alpha \beta \leq \frac{c}{a} \rightarrow 0 \leq \frac{m-1}{k} \rightarrow m \leq 1 \quad \checkmark$$

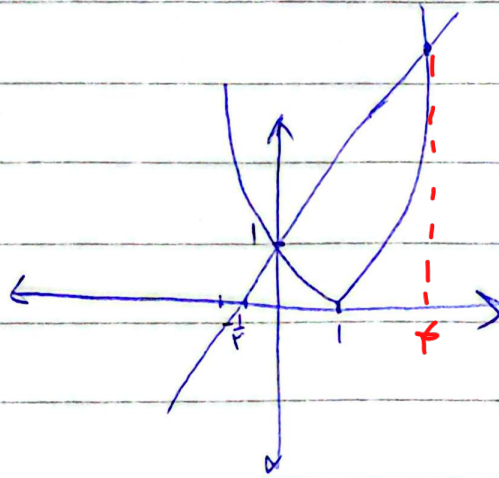


$$h_{\max} = \frac{-\Delta}{4a} = \frac{4ac - b^2}{4a} = \frac{0.42500}{2 \times 0.5} = 42.5 \checkmark \quad \text{9- (2)}$$

$$- \ln t^2 + 4 \ln 50 \xrightarrow{\frac{d}{dt}} 2t - 4 \ln 50 \rightarrow t(5-1) \quad \text{9- (4)} \checkmark$$

در حالت بهینه توپ به زمین می‌رسد.

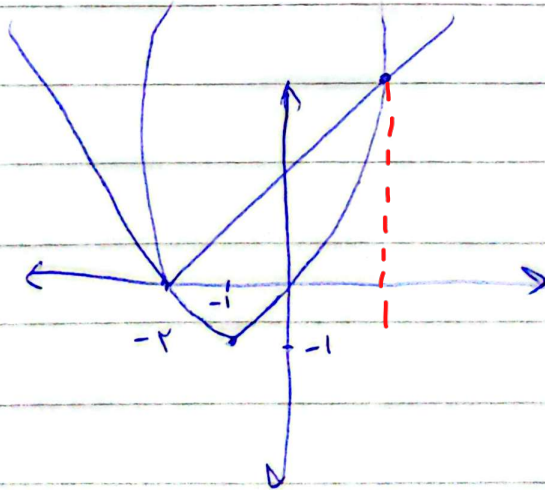
الف)



1- (1, 4)

دو جواب 0 و 4 = x

ب)



دو جواب 2- و 1- = x