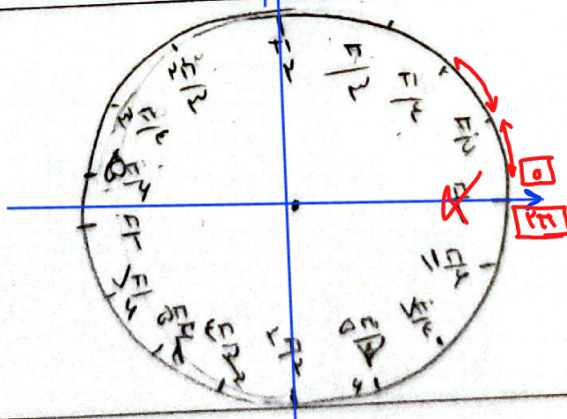
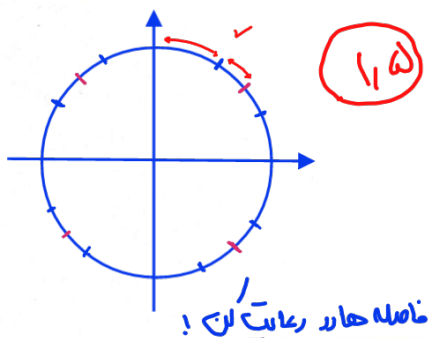
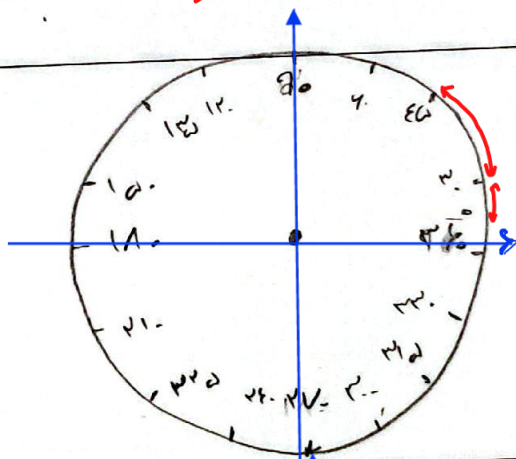
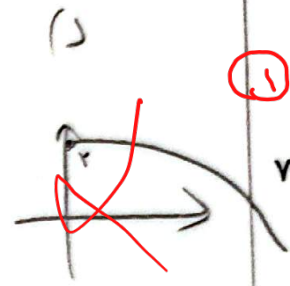
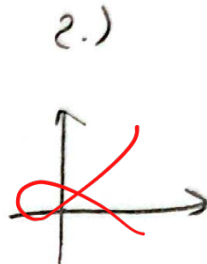
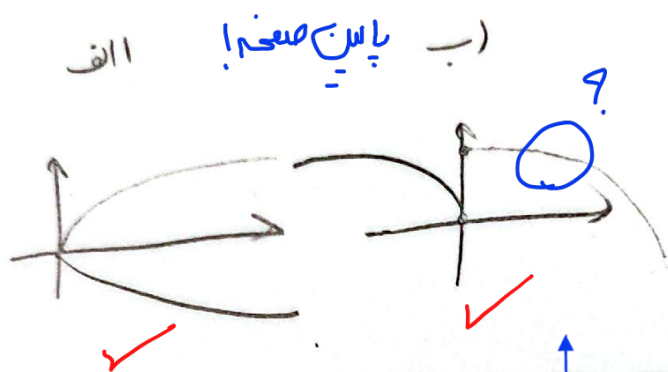
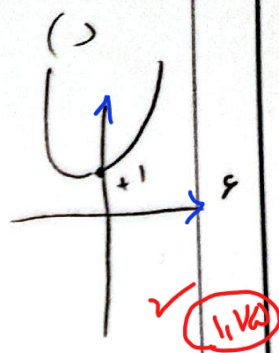
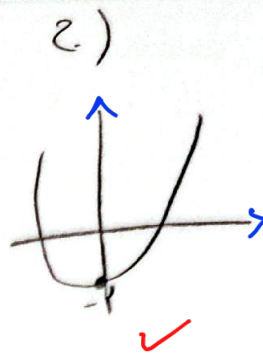
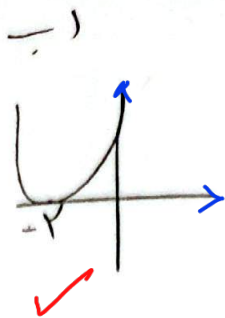
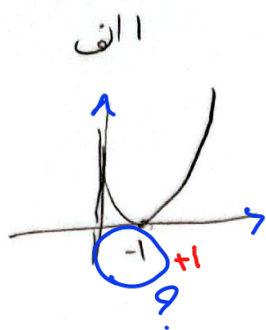




الف)  $\cos 120^\circ = -\cos 60^\circ = -\frac{1}{2}$  ✓

ب)  $\cos \frac{2\pi}{3} = \cos 120^\circ = -\frac{1}{2}$  ✓

ج)  $\sin 120^\circ = \sin 60^\circ = \frac{\sqrt{3}}{2}$  ✓

د)  $\sin \frac{2\pi}{3} = \sin 120^\circ = \frac{\sqrt{3}}{2}$  ✓

$$f_u = u^2 + 3$$

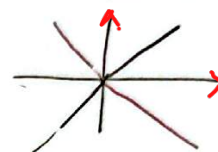
$$u^2 - 4u + 3 = 0 \rightarrow (u-1)(u-3)$$

$$u = 3 \text{ یا } 1$$

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$$a) \quad m = y \quad \text{و} \quad y = -m \quad \times$$



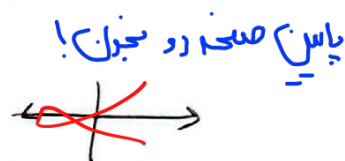
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$$b) \quad |y| = 0$$

$$y = 0$$

$$\sqrt{m-1} = 0$$

$$m = 1 \quad \checkmark$$



۱.۲۵

$$c) \quad n = 3 \quad |y-1| = 1 \rightarrow y = 0 \text{ یا } 2 \quad \times$$

$$d) \quad n = 0 \quad y^4 - y = 0 \quad y(y^3 - 1) = 0 \rightarrow y = 1 \text{ یا } -1 \text{ یا } 0 \quad \times$$

$$e) \quad n = 0 \quad \cos^2 \frac{y}{2} = 1 \quad y = 0 \quad y = 2\pi \text{ یا } 4\pi \text{ یا } \dots \quad \times$$

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۲

$$f) \quad n = 0 \quad 0 \times y = 0 \quad \text{مستقیمه} = R = y \quad \times$$

$$n^2 + |y-1| = 4n$$

$$n = 1$$

$$|y-1| = 4n - n^2$$

$$|y-1| = 3$$

$$y = -2 \text{ یا } 4$$

 $\times$ 

$$y^2 + 3n = 0$$

$$y^2 = -3n$$

$$y = \sqrt{-3n} \quad \text{ادامه؟}$$

 $\checkmark$ 

پاسخ صحیح!

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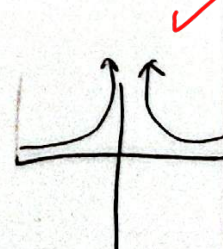
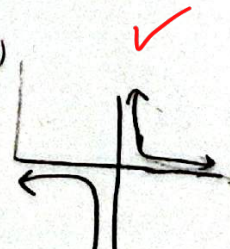
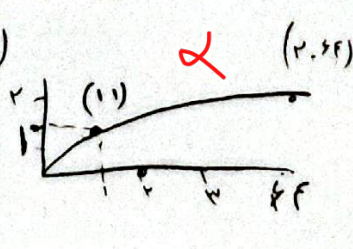
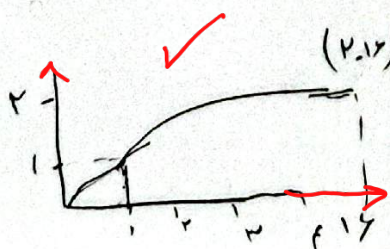
د) اف

ب) پاسخ صحیح!

ج)

د)

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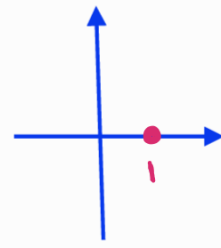


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سوال ۲

$$\text{جواب) } |y| + \sqrt{x-1} = 0 \Rightarrow \begin{cases} |y| = 0 \Rightarrow y = 0 \\ \sqrt{x-1} = 0 \Rightarrow x = 1 \end{cases}$$

جمع دو عبارت نامنفی  
برابر با صفر شده، پس  
هر کدام برابر با صفر بوده



تابع هست

سوال ۴

برای تابع بودن یا نبودن قرار شد  
آن به بلد بودیم شکل بکشیم  
یا مثال نقض بزنیم (مفاد برای نشان دادن تابع نبودن)  
تعریف ریاضی

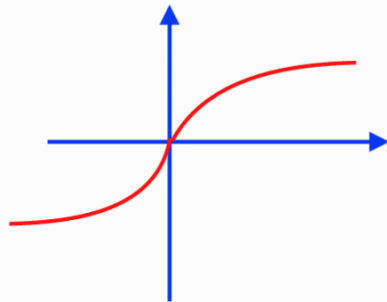
$$\text{جواب) } y^5 + 3x = 0 \quad \begin{cases} y_1^5 + 3x_1 = 0 \\ y_2^5 + 3x_2 = 0 \end{cases} \xrightarrow{x_1 = x_2} y_1^5 = y_2^5 \Rightarrow y_1 = y_2$$

از تعریف ریاضی

تابع هست

سوال ۵

$$\text{جواب) } y = \sqrt[5]{x}$$



سوال ۷

