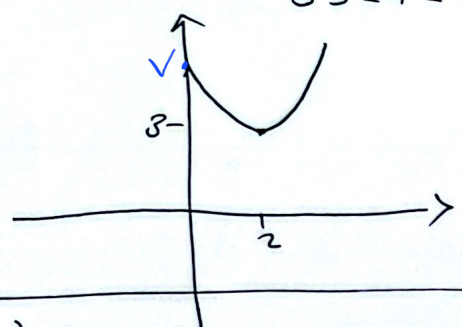
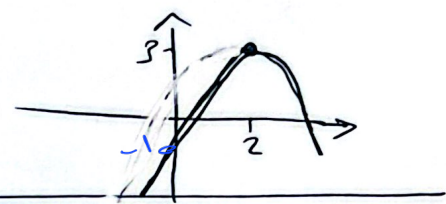


11, 15

میکائیلی 12 کلاس A ری 12 کلاس A



1. $\Delta \geq 0 \Rightarrow 3^2 - 4(2)(-3) = 9 + 24 = 33 > 0$



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2. $(m+1)^2 - 4(2)(\frac{1}{2}m+2) \geq 0 \Rightarrow m^2 - 2m - 15 \geq 0 \Rightarrow (m-5)(m+3) \geq 0$
 $\Rightarrow (-\infty, -3) \cup (5, +\infty)$

$\Rightarrow (m-5)(m+3) \leq 0 \Rightarrow m \in [-3, 5]$

ج. $(m-5)(m+3) \leq 0 \Rightarrow m \in [-3, 5]$

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3. الف) $\Delta > 0 \Rightarrow (2m+2)^2 - 4(m-2)(10) > 0 \Rightarrow 4m^2 - 32m + 84 > 0$

$P > 0 \Rightarrow \frac{10}{m-2} > 0 \Rightarrow (2, +\infty)$ $S < 0 \Rightarrow \frac{2(m+1)}{(m-2)} < 0 \Rightarrow (-1, 2)$

$\Rightarrow m \in \emptyset$

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ب. $\Delta > 0 \Rightarrow 4m^2 - 32m + 84 > 0 \rightarrow$ همیشه برقرار است

$P \leq 0 \Rightarrow \frac{10}{m-2} < 0 \Rightarrow (-\infty, 2)$ $S < 0 \Rightarrow \frac{2(m+1)}{m-2} < 0 \Rightarrow (-1, 2)$

$m \rightarrow (-1, 2)$

انف) $P < 0 \Rightarrow \frac{10}{m-2} < 0 \Rightarrow (-\infty, -2)$ $\Rightarrow m \in (-\infty, -2)$

$\Delta > 0 \Rightarrow (2m+2)^2 - 4(m-2)(10) > 0 \rightarrow$ همیشه برقرار است

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ب. $\frac{b}{a} = -4 \rightarrow \frac{m+1}{m-2} = -4 \Rightarrow 3m = 3 \Rightarrow m = 1$

4. $4\sin^2 \alpha - 4(\frac{1}{3})(\frac{1}{2}) \geq 0 \Rightarrow 4\sin^2 \alpha \geq 1 \Rightarrow \sin^2 \alpha \geq \frac{1}{4} \Rightarrow \sin \alpha \geq \frac{1}{2}$

$\sin \alpha \geq \frac{1}{2} \Rightarrow (2m-3)^2 \geq 0 \rightarrow m \geq \frac{3}{2}$ $\sin \alpha \geq 1 \Rightarrow (2m+3)^2 \geq 0 \rightarrow m \geq -\frac{3}{2}$

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$$\frac{(x-1)(3x+1)(2x+5)(x+7)}{(1-x)(x+7)} = -6x^2 + 13x + 5 \Rightarrow -((13)^2 - 4(-6)(5)) \cdot \frac{6}{4(-6)} = \frac{6 \cdot 24}{24} = 6$$

$$3\left(\frac{m+2}{m}\right) + 5\left(\frac{2}{m}\right) + 7 = \frac{3m+6+10}{m} + 7 = \frac{3m+16}{m} + 7 \Rightarrow m=4$$

$$x^2 + y^2 = 5^2 - 2xy = \left(\frac{6}{4}\right)^2 - 2\left(-\frac{1}{2}\right) = \frac{13}{4}$$

$$B^3 = B(5B-2) = 5B^2 - 2B = 23B - 10$$

$$B^4 = 105B - 46 \Rightarrow B^5 = 479B - 216$$

$$\frac{4x + B^5}{5(5B-2)} = \frac{4(5-B) + 479B - 216}{25B-10} \Rightarrow B=19$$

$$x=3 \Rightarrow y_1 = 9a - 3b + 4 \quad y_2 = 4 \Rightarrow 9a - 3b = 0 \Rightarrow 3a = b$$

$$x=-2 \Rightarrow y_1 = 4a + 2b + 4 \quad y_2 = 14 \Rightarrow 2a + b = 5 \Rightarrow 5a = 5 \Rightarrow a=1$$

$$y_2 \quad x^2 + 3x + 4 \Rightarrow -\frac{3}{2} \quad b=3$$

$$2x^2 + mx + m + 6 = 0 \Rightarrow m^2 - 4(m+6)(2) = 0$$

$$(m-12)(m+4) = 0 \Rightarrow m = -4 \Rightarrow (x-1)^2 = 0 \rightarrow |1| \rightarrow \text{قبول} \checkmark$$

$$m = 12 \Rightarrow (x+3)^2 = 0 \rightarrow |-3| \rightarrow \text{غير قابل قبول}$$