

برگه امتحانی

تاریخ امتحان:
موضوع امتحان:

دستگاه:
مدرسه:
دبیرستان:

نام:
نام خانوادگی:
شماره تکلیف: ۲۲

سوال ۱

$$x^2 - 8x + 1 = 0 \Rightarrow \alpha + \beta = 8 = -\frac{b}{a} = 8 \text{ و } \rho = \frac{c}{a} = 1 \Rightarrow \beta = \frac{1}{\alpha}$$

$$\Rightarrow \frac{4\alpha + \beta^8}{8\beta^7} = \frac{4\alpha}{8(\frac{1}{\alpha})^7} + \frac{\beta^8}{8} \Rightarrow \frac{4\alpha}{8 \times \frac{1}{\alpha^7}} \rightarrow \frac{\alpha^8}{8} + \frac{\beta^8}{8} = \frac{1}{8}(\alpha^8 + \beta^8) =$$

$$\frac{1}{8}(\alpha^8 - 8\rho\alpha^7 + 1) = \frac{1}{8}(\alpha^8 - 8(1)(8)) = \frac{1}{8} \times 98 = 19$$

سوال ۲

$$(39-4) \Rightarrow 4a + 3b + c = -4$$

$$(-\frac{9}{4} - 4) a(\frac{9}{4}) + b(-\frac{9}{4}) + c = -4$$

$$\Rightarrow (94 - \frac{9}{4}a) + (3b + \frac{9}{4}b) + (c - c) = 0$$

$$\Rightarrow 3a + 2b = 0 \quad \Rightarrow s = -\frac{b}{a} = -\frac{-\frac{3}{2}a}{a} = \frac{3}{2} = 1,5$$

سوال ۳

$$|\frac{K}{3}| = \frac{\sqrt{4K^2 - 20}}{1} \Leftrightarrow |K - B| = \frac{\sqrt{\Delta}}{|A|}$$

$$|K| = 3\sqrt{4K^2 - 20} \rightarrow 16K^2 = 9(4K^2 - 20) \rightarrow 16K^2 = 36K^2 - 180 \rightarrow 180 = 20K^2$$

$$\rightarrow 9 = K^2 \Rightarrow K = \pm 3 \rightarrow \left[\frac{K^2}{2}\right] = \left[\frac{9}{2}\right] = \left[\frac{4,5}{1}\right] = 4$$

سوال ۴

$$A = (3, 4) \quad B = (-8, 5) \quad \alpha, \beta \text{ ریشه ها}$$

$$\frac{\alpha + \beta}{2} = \frac{-8 + 3}{2} = -\frac{5}{2} \rightarrow \alpha + \beta = -5 \Rightarrow s = -\frac{5}{2} = -2,5$$

$$\alpha^2 + \beta^2 = 8 \Rightarrow (\alpha + \beta)^2 - 2\alpha\beta = 8 \Rightarrow \alpha\beta = -\frac{1}{2}$$

$$y = \alpha(x^2 + 2x - \frac{1}{2}) = 1 \Rightarrow \alpha(1 + 2 - \frac{1}{2}) \rightarrow \alpha = \frac{2}{3} \rightarrow y = -\frac{2}{3}(x^2 + 2x + (-\frac{1}{2}))$$

$$\rightarrow x_1 = 0 \rightarrow y = \frac{1}{3}$$

سوال ۵

$$F(\frac{9}{4}) < 0 \Rightarrow -(\frac{9}{4})^2 + 8\frac{9}{4} + m < 0 \Rightarrow -\frac{81}{4} + \frac{72}{4} + m < 0$$

$$\rightarrow m < -\frac{9}{4} = -2,25 \quad \text{داده شد } \Delta > 0 \rightarrow 20 + 4m > 0 \rightarrow m > -\frac{20}{4} = -5$$

$$-5 < m < -2,25 \Rightarrow m = -3, -4, -4,5 \Rightarrow \text{۳ عدد}$$

سوال ۶

$$\bar{y} = 2 \Rightarrow \frac{-\Delta}{4a} = 2 \rightarrow -\Delta = 16a \rightarrow \Delta = -16a \rightarrow \Delta = 16m$$

$$\rightarrow 144 - 4m(8m-1) \rightarrow -20m^2 + 4m + 144 = -16m \rightarrow -8m^2 + m + 36 = -2m$$

$$\rightarrow -8m^2 + 3m + 36 = 0 \rightarrow m^2 + 3m - 110 = 0 \rightarrow (m+10)(m-11) = 0$$

$$\Rightarrow m_1 = \frac{-10}{-8} = 1.25 \quad m_2 = \frac{-11}{-8} = 1.375$$

زیر تابع منبسط دارد $\Rightarrow$ غنق ق $\Rightarrow$ نه ما نسیم

$$\rightarrow \text{مقدار محور تقارن} = x = \frac{-b}{2a} \rightarrow \frac{-b}{2 \times m} = \frac{12}{2 \times 3} = 2$$

سوال ۷

اگر به ترتیب α و β بتوان تشکیل دایره منبسطی دهیم $\downarrow$

$$\alpha^2 = \alpha \times \beta = p = \frac{c}{a} = 2a-1 \Rightarrow \alpha^2 = 2a-1 \Rightarrow a=1$$

سوال ۸

$$x^2 - \sqrt{t}x - 8 = 0 \Rightarrow t^2 - \sqrt{t}t - 8 = 0 \Rightarrow x_1 = \sqrt{t} \text{ و } x_2 = -\sqrt{t}$$

$$S = \sqrt{t} + (-\sqrt{t}) = 0 \text{ و } p = \sqrt{t} \times -\sqrt{t} = -t = -\sqrt{t} + \sqrt{69}$$

نکته: چون $t = 2^2 \Rightarrow$ می توان از متنی با آرد

$$2p^2 - 3sp + 2s = 2p^2 = 89 + 7\sqrt{69}$$

سوال ۹

$$\text{ext} \left| \begin{array}{l} x = \frac{y}{k} \\ y = \frac{-\Delta}{4k} = \frac{-(16 + 24k)}{4k} = \frac{-16 - 24k}{4k} = \frac{-4 - 6k}{k} \end{array} \right.$$

نقاط قرار می دهی بدان

$$\frac{-4 - 6k}{k} = \frac{-4 - 6k}{k} \Rightarrow -2k = -4 \Rightarrow k = 2$$

$$\rightarrow y = \frac{-4}{2k} = \frac{-4 - 6k}{k} = \frac{-4 - 12}{2} = \frac{-16}{2} = -8$$

سوال ۱۰

$$y = -m_2x^2 + m_2x + 1 \quad y = -m - 2x$$

$$-m_2x^2 + m_2x + 1 = -m - 2x \rightarrow m_2x^2 - (m+1)x - (m+1) = 0$$

$$\rightarrow \Delta < 0 \rightarrow (m+1)^2 + 4m(m+1) - 8m^2 + 8m + 4 < 0 \Rightarrow (m+1)(m+\frac{1}{2}) < 0$$

$$-1 < m < -\frac{1}{2} \Rightarrow$$

تعداد اعداد صحیح = صفر