

19, 17

الف) $g = A^2 - 2A + 1$

$m_{ext} = -\frac{b}{r_a} = \frac{f}{r} = (2)$

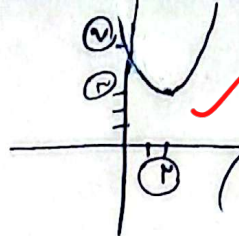
$g_{ext} = f - 1 + v = (3)$

$\Delta = b^2 - 4ac = -4 - 4 = -8$

$\Delta = b^2 - 4ac = 16 - 4 = 12$

ریشه ها $\Rightarrow$ ریشه ها $\Rightarrow$ ریشه ها

عبارت $\Rightarrow$ (b) max



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ب) $-A^2 + 4A - 1$

$m_{ext} = -\frac{b}{r_a} = \frac{f}{r} = (2)$

$g_{ext} = v$

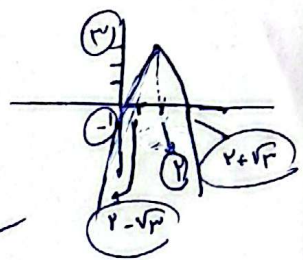
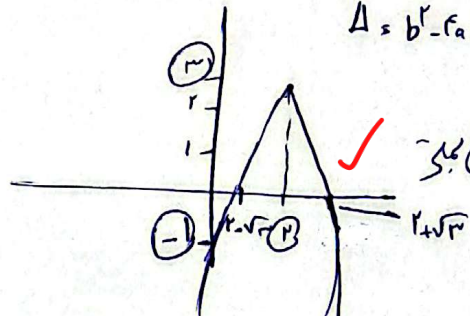
عبارت $\Rightarrow$ (5) max

$\Delta = b^2 - 4ac = 16 - 4 = 12$

$\Delta = b^2 - 4ac = 16 - 4 = 12$

$\Delta = b^2 - 4ac = 16 - 4 = 12$

ریشه ها $\Rightarrow$ -1



$2A^2 + (m+1)A + \frac{1}{r}m + 2 = 0$

$\Delta = b^2 - 4ac = (m+1)^2 - 4 \cdot \frac{1}{r}m \cdot 2 = m^2 + 2m - 4m - 4 = m^2 - 2m - 4$

$\Delta < 0 \Rightarrow$ (ج) حاصل ریشه ها منفی و ریشه ها یکنواخت

$\Delta > 0 \Rightarrow$ (الف) دو ریشه ی متمایز

$\Delta \geq 0 \Rightarrow$ (د) حاصل ریشه ها یکنواخت

$\Delta = 0 \Rightarrow$ (ب) یک ریشه ی مضاعف

$g = (m-2)A^2 - 2(m+1)A + \dots$

$\frac{1}{m-2} > 0 \Rightarrow \dots$

$S = \frac{-b}{a} = \frac{2m+2}{m-2}$

$\frac{2m+2}{m-2} < 0$

$S < 0 \Rightarrow P > 0$

(الف) دو ریشه ی منفی

$C = \frac{c}{a} = \frac{1}{m-2}$

$\frac{1}{m-2} < 0 \Rightarrow \dots$

$Fm^2 - 22m + 11 = 0$

$m^2 - 11m + 11 = 0$

حاصل ریشه ها $\Delta < 0$ و $\Delta > 0$

$\Delta = b^2 - 4ac = Fm^2 + 11m + 11 - 4 \cdot F \cdot m \cdot 11 = Fm^2 - 33m + 11$

$S < 0 \Rightarrow P < 0 \Rightarrow \Delta > 0$

(ب)

$\frac{1}{m-2} < 0$

$m < 2$

$\frac{2m+2}{m-2} < 0$

$(1) \cap (2) = (1, 2)$

$m \in (1, 2)$

نقطه $(P < 0)$ چون $\Delta < 0$ و $P < 0$

قطب $\Delta > 0$ و $P > 0$ و $\Delta > 0$ و $P > 0$

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برای حل

این می باشد (فرض می کنیم $\Delta > 0$ و $\Delta < 0$ است) $\Delta > 0$ است

$$\frac{1}{m-2} < 0 \Rightarrow \frac{1}{m-2} \in (-\infty, 2) \checkmark$$

(۱, ۷۵)



$$\frac{-b}{2a} = -2 \Rightarrow \frac{2(m+1)}{2 \cdot 1} = 0$$

وقت!

$$r_{m+2} = -r_m + 1$$

$$r_m = +6 \Rightarrow \boxed{m=1}$$

(۲)

$$\frac{r}{r} a^r - (r \sin \alpha) a + \frac{r}{r}$$

$$\Delta = b^2 - 4ac \Rightarrow \Delta = 4 \sin^2 \alpha - 4$$

$$a = \frac{r \sin \alpha \pm \sqrt{\Delta}}{2} = \frac{r \sin \alpha}{2} = \frac{r}{2} \quad \left(\frac{r}{2} \right) \checkmark$$

$\sin \alpha \in [-1, 1]$

$$\frac{r a^r + m - 1}{r a^r - r a} \mid \frac{a-1}{(a+1)}$$

$$\frac{(a-1)(a+1) \alpha (a+1)(a-1)}{(1-a)(1+a)} = \frac{(a+1)(a-1) - (a^2 + 1 - a^2 - 1)}{(1-a)(1+a)}$$

$$\frac{r a^r + r a}{r a^r - r a} \mid \frac{a+1}{a-1}$$

$$\frac{r a^9}{2F} \checkmark$$

$$\delta_{ext} = \frac{\Delta}{F_a} = \frac{(11^2 - 10^2 + 1)}{F(1-2)} = \frac{(99+1)}{-2F} = \frac{100}{-2F} = -\frac{50}{F}$$

$$r(s) - v = \Delta p$$

$$r\left(\frac{m+2}{m}\right) - v = \frac{-1}{m}$$

$$\frac{r_{m+2}}{m} - v = \frac{-1}{m}$$

$$\frac{-r_{m+2}}{m} = \frac{-1}{m}$$

(۲) - v

$$s = \frac{h}{a} \cdot \frac{m+2}{m}$$

$$r a^r + s^r - r p = \frac{9}{r} - r \times \frac{1}{r} = \frac{9}{r} + 1 \left(\frac{1}{r} \right) \checkmark$$

$$\frac{-r_{m+2}}{m} = \frac{-1}{m} \Rightarrow \boxed{m=1}$$

$$r a^r - r p = 2$$

$$\frac{r \alpha + \beta^0}{\alpha \beta^r} = \frac{r \alpha}{\alpha \beta^r} + \frac{1}{\alpha} \beta^r = \frac{r}{\alpha \left(\frac{\beta}{\alpha} \right)^r} + \frac{1}{\alpha} \beta^r = \frac{1}{\alpha} \alpha^r + \frac{1}{\alpha} \beta^r = \frac{1}{\alpha} (\alpha^r + \beta^r) = \frac{1}{\alpha} (s^r - s p) = \frac{1}{\alpha} \times$$

$$p \times \alpha \times \beta = r \Rightarrow \beta^r = \frac{r}{\alpha r}$$

$$\frac{1}{\alpha} (9) \left(\frac{1}{9} \right) \checkmark$$

$$s = \alpha =$$

$$a n^2 + b n + c = r n + l \Rightarrow a n^2 + (b-r) n + (c-l) = 0$$

سید علی شریف - 9
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~~معمولاً~~

~~معمولاً~~ (1)

ریشه $r_0 = r$

$$1 \pm \frac{-1 \pm \sqrt{1 - 4(a-r)}}{2} = \frac{-1 \pm \sqrt{1 - 4(a-r)}}{2} n + 1 \pm \frac{-1 \pm \sqrt{1 - 4(a-r)}}{2} = a n^2 + (b-r) n + c$$

$$a n^2 + b n + c = r n + l \Rightarrow a n^2 + (b-r) n - c = a n^2 + n - c$$

ریشه $r_0 = r$

$$a n^2 + b n + c = a n^2 + n - c$$

$$a = 1, b = 1, c = 1 \Rightarrow n^2 + n + 1 = 0$$

$$n^2 + n + 1 = 0$$

$$n_{ext} = \frac{-b}{2a} = \frac{-1}{2} = -0.5$$

$$n = -0.5$$

موتشان

$$r n^2 + (m+1) n + m + 1 = 0 \Rightarrow r n^2 + m n + m + 1 = 0 \Rightarrow b^2 - 4ac = 0 \Rightarrow m^2 - 4m - 4 = 0$$

چون ممیزی در نتیجه نقطه برخورد دارند $\Rightarrow$ معادله‌ی برخورد $D = 0$

$$m^2 - 4m - 4 = 0$$

$$(m-1)^2 (m+4) = 0$$

$$m = 1$$

$$m = -4$$

چون ریشه برخوردناپذیری (نقطه برخورد) حالت به هم نرسیده (در) دارند

$$m = k \Rightarrow r n^2 + 10n + 1 = 0 \Rightarrow \frac{1}{10} n^2 + n + \frac{1}{10} = 0$$

$$\Rightarrow \frac{1}{10} n^2 + n + \frac{1}{10} = 0$$

$$m = -4 \Rightarrow r n^2 - 4n + 1 = 0 \Rightarrow \frac{1}{4} n^2 - n + \frac{1}{4} = 0$$

$$m = -4 \Rightarrow \frac{1}{4} n^2 - n + \frac{1}{4} = 0$$

$$m = -4$$