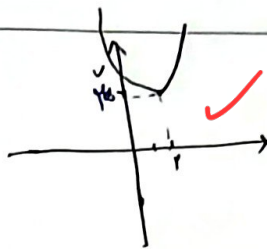


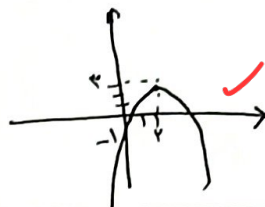
نام و نام خانوادگی: ... فرزاد بدیرانی ... پاسخنامه تشریحی تکلیف شماره ۱۰۲... کلاس: ...

الف) $x^2 - 2x + 1 = y$



۲

ب) $-x^2 + 2x - 1$



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

- ۱) $\rightarrow \Delta > 0 \rightarrow (m+1)^2 - 4(\frac{1}{2}m + \frac{1}{2}) > 0 \rightarrow m^2 + 2m + 1 - 2m - 2 > 0 \rightarrow m^2 - 1 > 0 \rightarrow (m-1)(m+1) > 0 \rightarrow m \in (-\infty, -1) \cup (1, +\infty)$
- ۲) $\rightarrow \Delta = 0 \rightarrow m^2 - 2m - 1 = 0 \rightarrow m = 1 \pm \sqrt{2}$
- ۳) $\rightarrow \Delta < 0 \rightarrow m^2 - 2m - 1 < 0 \rightarrow (m-1)^2 < 2 \rightarrow m \in (1-\sqrt{2}, 1+\sqrt{2})$
- ۴) $\rightarrow \Delta \geq 0 \rightarrow m^2 - 2m - 1 \geq 0 \rightarrow m \in (-\infty, -1] \cup [1, +\infty)$

۲

$y = (m-1)x^2 - 2(m+1)x + 1$

الف) $\rightarrow$ دایره شنی $\rightarrow \Delta > 0, S < 0, P > 0$
 $\Delta > 0 \rightarrow$ همیشه

$\Delta = 4m^2 + 4m + 4 - 4 \cdot m + 1 = 4m^2 - 4m + 5$

ب) $\rightarrow$ دایره شنی $\rightarrow \Delta > 0, S < 0, P < 0$
 $\Delta > 0 \rightarrow$ همیشه

$S < 0 \rightarrow \frac{2m+1}{m-1} < 0 \rightarrow \frac{1}{1-1} \rightarrow m \in (-1, 1)$
 $P > 0 \rightarrow \frac{1}{m-1} > 0 \rightarrow m-1 > 0 \rightarrow m > 1$

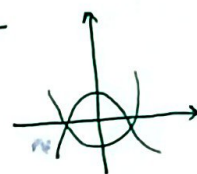
$S < 0 \rightarrow \frac{2m+1}{m-1} < 0 \rightarrow \frac{1}{1-1} \rightarrow m \in (-1, 1)$
 $P < 0 \rightarrow \frac{1}{m-1} < 0 \rightarrow m-1 < 0 \rightarrow m < 1 \rightarrow m \in (-1, 1)$

۳

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

الف) $\rightarrow$ دایره شنی $\rightarrow \Delta > 0, S < 0, P > 0$
 $\Delta > 0 \rightarrow$ همیشه

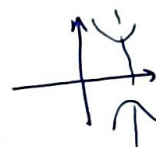
$\Delta > 0$
 $P < 0$



۲

$\Rightarrow -\frac{b}{2a} = \frac{2(m+1)}{2(m-1)} = -1 \rightarrow m+1 = -2m+1 \rightarrow 3m = 0 \rightarrow m = 0$

$m = 0 \rightarrow m = 0$



$\frac{2x^2}{3} + (2 \sin \alpha)x + \frac{1}{3} = 0$

$2 \sin^2 \alpha - 4 > 0 \rightarrow \sin^2 \alpha > 2 \rightarrow \frac{2}{3}x^2 - 2x + \frac{1}{3} < 0 \rightarrow \frac{2}{3}x^2 + 2x + \frac{1}{3}$

$x < 0 \rightarrow 2m^2 - 12m + 9 > 0 \rightarrow (2m-3)^2 > 0 \rightarrow m \neq \frac{3}{2}$

$x < 0 \rightarrow 2m^2 + 12m + 9 > 0 \rightarrow (2m+3)^2 > 0 \rightarrow m \neq -\frac{3}{2}$

۲

۵

$$\frac{(r_n^r - r_{m-1})(r_n^r - r_{m-1})}{1 - r} = \frac{(r_{m+1})(r_{m-1})}{(1-r)(m+1)} \quad \text{with } r_n^r - r_{m-1} = 0 \quad (r)$$

$$max = -\frac{\Delta}{f_n} \cdot \frac{149 + 1r}{r} = \underline{\underline{1 + \frac{1}{r}}}$$

$$m n^r - (m+r) n - r = 0$$

$$r S = \omega p + v \rightarrow r \left(\frac{m+r}{m} \right) = \omega \left(\frac{-r}{m} \right) + v \rightarrow r_{m+4} = \frac{v + v m}{m} - 1$$

$r m \approx 14 \rightarrow \boxed{m \cdot r}$ $r n^r - 4 m - r$

$$S^r - r p \rightarrow \frac{r}{r+1} = \frac{r}{r} \quad \checkmark$$

$$\frac{r\alpha + \beta^0}{\omega \beta^r} \xrightarrow{\times \omega} \frac{r\alpha \beta + \beta^y}{\omega \beta^r} \xrightarrow{\beta = \frac{r}{\alpha}} \frac{1 + \beta^y}{\omega \beta^r} = \frac{\beta^r + r}{\omega \beta^r} (\beta^k + r\beta^r + r) \quad (r)$$

$$\rightarrow \frac{\beta^k + r\beta^r + r}{\beta^r}$$

$$\beta^r = \omega \beta - r \rightarrow \beta^k = r\omega \beta^r - r\beta + r \rightarrow \frac{r\omega \beta^r - r\beta + r}{\beta^r}$$

$$\underline{-r\beta + r = -r\beta^r}$$

$$\frac{19\beta^r}{\beta^r} = 19 \quad \checkmark$$

$$y_r = ar^r + br + c$$

$$y_r = r^m + 1$$

$$c = r$$

$$ar^r + br + r = r(r) + 1 \rightarrow ra + rb = 1 \rightarrow b + ra = 0$$

$$ar^r + br + r = r(-r) + 1 \rightarrow ra - rb = 0 \rightarrow ra - b = 0$$

$$\frac{ra - b = 0}{ra + b = 1} \rightarrow \boxed{a = 1} \quad \boxed{b = r}$$

(r)

9

$$\rightarrow -\frac{b}{ra} = -\frac{r}{r} = -1 \quad \checkmark$$

$$r^m r + (m+1)r + m + 4 = 0 \rightarrow r^m r + m r + m + 4 = 0$$

(r)

10

$$\Delta_{2c} \rightarrow m^r - 1 \cdot m - r \rightarrow (m-1r)(m+r) = 0$$

$$\rightarrow m = 1r, -r$$

$$m = -r$$

$$m = 1r$$

✓
نامی اول ✓
پسری X