

$$u_2 = a n^r + b n + c$$

$$u_r = r n + 1$$

$$-\frac{b}{ra} \quad -\frac{-r}{r(r)} = -\frac{r}{r}$$

$$ra + rb + c = \frac{r}{r+1} \Rightarrow ra + rb = 1$$

$$\frac{-r}{r(r)} = -\frac{r}{r}$$

$$a + (-rb) + c = -r + 1 \Rightarrow a - rb = 0$$

$$\Rightarrow ra + b = 1$$

$$u_2 = r n^r + (m+1) n + m r$$

$$a = 1 \Rightarrow ce = r b = r$$

$$r n^r + (m+1) n + m r = n$$

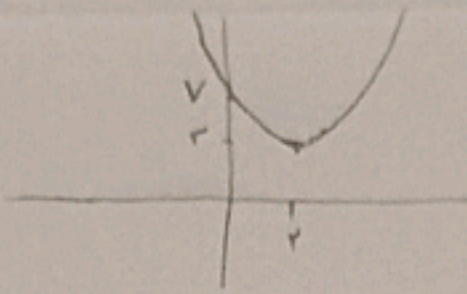
$$r n^r + m n + m r \Rightarrow m^r - n(m+r) \Rightarrow m^r - n m - r n$$

$$r n^r + \cancel{m n} + \cancel{m r} = n \quad (n + r)(n + r) \Rightarrow \frac{1}{r} = \frac{r}{r(r)} = -\frac{r}{r}$$

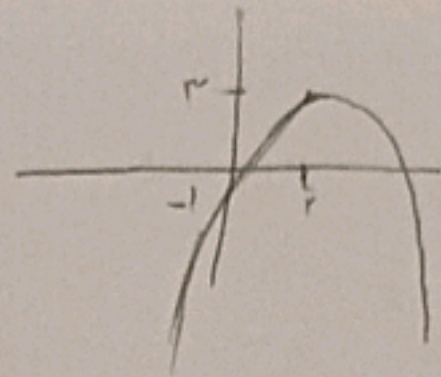
$$r n^r - \cancel{m n} - \cancel{m r} = n \Rightarrow 1 \quad \frac{r}{r} \Rightarrow 1$$

$$V = x^2 - 4x + 7 \quad \frac{+f}{y} = 2$$

$$V = -x^2 + 4x - 1 \quad \frac{-f}{-y} = 2 \quad \oplus$$



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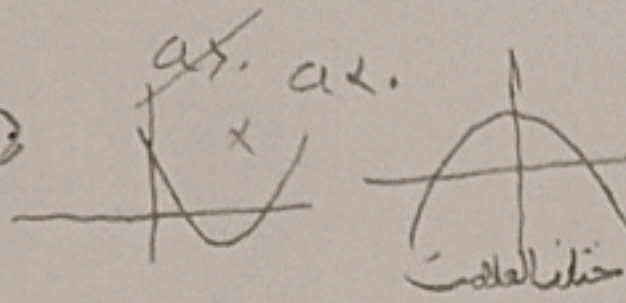
$$x^2 + (m+1)x + \frac{1}{2}m + 2 = 0$$

$\Delta > 0$: $m^2 + 1 + 2m - 1(\frac{1}{2}m + 2) \Rightarrow m^2 + \frac{3}{2}m - 1 \Rightarrow (m+2)(m-\frac{1}{2})$
 $\Delta = 0$: $\Rightarrow \{-2, \frac{1}{2}\}$
 $\Delta < 0$: $\Rightarrow (-\infty, -2] \cup [\frac{1}{2}, +\infty)$

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

$\Delta > 0$: $4m^2 + 4 + 4m - 4(m-2) \Rightarrow 4m^2 + 4m + 12$
 $\Delta < 0$: $\frac{2m+2}{m-2} < 0 \Rightarrow \frac{1}{m-2} < 0 \Rightarrow m < 2$
 $\Delta = 0$: $\frac{1}{m-2} = 0 \Rightarrow m = 2$

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



$m-2 < 0 \Rightarrow m < 2$
 $\Delta > 0$: $\frac{1}{m-2} < 0 \Rightarrow m < 2$

$\frac{-b}{2a} = -2 \Rightarrow \frac{2m+2}{2m-4} = -2 \Rightarrow -5m + 10 = 2m + 2 \Rightarrow 7m = 8 \Rightarrow m = \frac{8}{7}$

$\frac{2x^2}{y} - (2 \sin \alpha)x + \frac{3}{y} = 0$
 $\frac{-b}{a} > 0 \Rightarrow \frac{2(-1)}{\frac{3}{y}} < 0$

$\frac{2(1)}{\frac{3}{y}} > 0 \Rightarrow \frac{2y}{3} > 0 \Rightarrow y > 0$

$ma \Rightarrow V = \frac{(2x^2 - 2x - 1)(2x^2 - 2x - 5)}{-1(1-x)(1+x)} \Rightarrow \frac{(2x^2 - 2x - 1)(2x^2 - 2x - 5)}{(1-x)(1+x)}$

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

$\frac{2(m+2)}{m} = 2(\frac{-2}{m}) + 1 \Rightarrow \frac{2m+4}{m} = \frac{-4}{m} + 1 \Rightarrow 2m+4 = -4+1 \Rightarrow 2m = -9 \Rightarrow m = -\frac{9}{2}$

$(\frac{-b}{a})^2 - 2(\frac{c}{a}) \Rightarrow (\frac{-2}{1})^2 - 2(\frac{-1}{1}) \Rightarrow 4 + 2 = 6$

$x^2 - 2x + 1 = 0 \Rightarrow (x-1)^2 = 0 \Rightarrow x = 1$

$(\alpha\beta - 2)^2 \Rightarrow 4\alpha^2\beta^2 - 8\alpha\beta + 4 \Rightarrow 4\alpha^2\beta^2 - 8\alpha\beta + 4 = 0 \Rightarrow \alpha\beta = 1$

$\beta^2 = 4\alpha\beta - 4$

$\frac{4(\alpha\beta - 2)}{4\alpha\beta - 4} \Rightarrow \frac{4(\alpha\beta - 2)}{4(\alpha\beta - 1)} \Rightarrow \frac{\alpha\beta - 2}{\alpha\beta - 1} \Rightarrow 1$