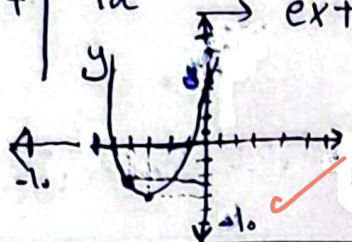


18/10

نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره ۱... کلاس: درس:

$y = n^2 + 4n + 8$ $y = an^2 + bn + c \neq \min$ $n = -3 \Rightarrow y = -4$

ext $\left| \begin{array}{c} -\frac{b}{2a} \\ y \end{array} \right| \rightarrow \text{ext} \left| \begin{array}{c} -\frac{4}{2} = -2 \rightarrow n \\ -4 \end{array} \right|$



ext $\left| \begin{array}{c} -3 \\ -4 \end{array} \right|$ ✓ (الف)

$\left| \begin{array}{c} -4 \\ -3 \\ -4 \end{array} \right| \quad \left| \begin{array}{c} 0 \\ 8 \end{array} \right|$

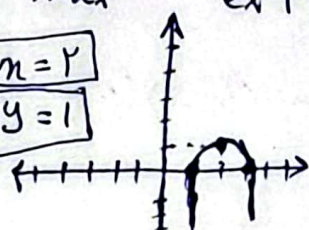
$y = -n^2 + 4n - 3$ max

ext $\left| \begin{array}{c} -\frac{b}{2a} \\ y \end{array} \right|$

$\frac{-b}{2a} = \frac{-4}{-2} = 2$ ✓ (الف)

ext $\left| \begin{array}{c} 2 \\ 1 \end{array} \right|$

$\left| \begin{array}{c} n=2 \\ y=1 \end{array} \right|$



$\left| \begin{array}{c} 3 \\ 0 \end{array} \right| \quad \left| \begin{array}{c} 2 \\ 1 \end{array} \right| \quad \left| \begin{array}{c} 1 \\ 0 \end{array} \right|$ ✓

$-n^2 + 4n - 3 = 0$

$-(n-1)(n-3) = 0$

$\left| \begin{array}{c} n=3 \\ n=1 \end{array} \right|$ ✓ (ب) ۳ اد

(الف) هر معادله ای که $\Delta > 0$ باشد آن معادله دارای ۲ جواب حقیقی متفاوت

پس: $\Delta = b^2 - 4ac$ $\frac{1}{a}n^2 - \frac{3}{b}n + \frac{a}{c} = 0$ $9 - 18a > 0$ $9 > 18a$ $\rightarrow \frac{9}{18} > a$

(ب) هر معادله ای که $\Delta = 0$ باشد آن معادله دارای یک ریشه مضاعف است پس: $\left| \frac{9}{18} > a \right|$ $9 - 18a = 0 \Rightarrow 9 = 18a \Rightarrow \left| \frac{9}{18} = a \right|$ ✓

(ج) هر معادله ای که $\Delta < 0$ باشد آن معادله ریشه ندارد پس: $9 - 18a < 0 \Rightarrow 9 < 18a \Rightarrow \left| \frac{9}{18} < a \right|$ ✓

(د) معادله ای دارای ریشه است که $\Delta > 0$ باشد پس: $9 - 18a > 0 \Rightarrow 9 > 18a \Rightarrow \left| \frac{9}{18} > a \right|$ ✓

$n^2 - 2n - 1 = 0 \rightarrow a^2 - 2ab + b^2 = (a-b)^2$ $\frac{n^2}{a^2} - \frac{2n}{2ab} + \frac{1}{b^2} = 2$ (الف) ✓

$(n-1)^2 = 2 \Rightarrow \sqrt{(n-1)^2} = \sqrt{2} \rightarrow |n-1| = \sqrt{2} \rightarrow \begin{array}{l} 1+\sqrt{2} \\ 1-\sqrt{2} \end{array}$ ✓

$n^2 - n - 1 = 0 \rightarrow n^2 - n - \frac{1}{\frac{1}{n}} = \frac{8}{\frac{1}{n}} \quad (n - \frac{1}{n})^2 = \frac{8}{\frac{1}{n}}$ (ب) ✓

$\sqrt{(n - \frac{1}{n})^2} = \sqrt{\frac{8}{\frac{1}{n}}} \rightarrow |n - \frac{1}{n}| = \sqrt{\frac{8}{\frac{1}{n}}} \Rightarrow n \in \begin{array}{l} \frac{1}{\frac{1}{n}} + \sqrt{\frac{8}{\frac{1}{n}}} \\ \frac{1}{\frac{1}{n}} - \sqrt{\frac{8}{\frac{1}{n}}} \end{array}$ ✓

$n^2 - 2n - 1 = 0$ $\Delta = b^2 - 4ac \rightarrow 4 + 4 = 8$ $n = \frac{-b \pm \sqrt{\Delta}}{2a} \rightarrow$ (الف) ✓

$\frac{2 \pm \sqrt{8}}{2} = 1 \pm \frac{\sqrt{8}}{2}$ ✓

$\frac{2 - \sqrt{8}}{2} = 1 - \frac{\sqrt{8}}{2}$ ✓

$n^2 + n - 1 = 0 \rightarrow \Delta = b^2 - 4ac \rightarrow 1 + 4 = 5 \rightarrow n = \frac{-b \pm \sqrt{\Delta}}{2a} \rightarrow n \rightarrow \begin{array}{l} \frac{-1 \pm \sqrt{5}}{2} = -\frac{1}{2} \pm \frac{\sqrt{5}}{2} \\ \frac{-1 \pm \sqrt{5}}{2} = -\frac{1}{2} \pm \frac{\sqrt{5}}{2} \end{array}$ (ب) ✓

$$n^2 - 11n + 18 = 0 \quad (a-b)(a-c) = a^2 + (-b-c)a + (c-b)(-c)$$

(الف)

$$(n-4)(n-5) = 0 \Rightarrow n = \begin{cases} 4 \\ 5 \end{cases}$$

$$n^2 + 3n - 28 = 0 \quad (a+b)(a-c) = a^2 + (b-c)a + (c-b)(-c)$$

(ب)

$$(n+4)(n-7) = 0 \Rightarrow n = \begin{cases} -4 \\ 7 \end{cases}$$

$$8n^2 - 12n + 5 = 0 \quad n^2 - 1.5n + 0.625 = 0 \quad (a-b)(a-c) = a^2 + (-b-c)a + (c-b)(-c)$$

$$(n-0.5)(n-1.25) = 0 \Rightarrow n = \begin{cases} 0.5 \\ 1.25 \end{cases}$$

$$3n^2 - 10n + 7 = 0 \quad n^2 - 3.33n + 2.33 = 0 \quad (n-1)(n-2.33) = 0 \Rightarrow n = \begin{cases} 1 \\ 2.33 \end{cases}$$

$$\frac{y}{a}n^2 - \frac{8}{b}n + \frac{r}{c} = 0 \rightarrow a+b+c=0 \Rightarrow \begin{cases} n=1 \\ n=\frac{c}{a} \end{cases}$$

(الف)

$$\frac{y}{a}n^2 + \frac{8}{b}n + \frac{r}{c} = 0 \rightarrow a+c=b \Rightarrow \begin{cases} n=-1 \\ n=-\frac{c}{a} \end{cases}$$

(ب)

$$3n^2 - 8n + 5 = 0 \rightarrow n^2 - 2.67n + 1.67 = 0 \quad (a-b)(a-c) = a^2 + (-b-c)a + (c-b)(-c) \Rightarrow (n-1)(n-1.67) = 0 \Rightarrow n = \begin{cases} 1 \\ 1.67 \end{cases}$$

$$\frac{f}{a}n^2 + \frac{v}{b}n + \frac{q}{c} = 0 \quad \Delta = b^2 - fac \quad \Delta = 9 - 1 \cdot 1 \cdot 1 = -9$$

$$s^2 - 2p = 9 + 1 = 10 \quad \Delta = b^2 - fac \rightarrow 9 + 1 = 10$$

$$s^2 - 2ps = 9 + 1 = 10 \quad \Delta = b^2 - fac \rightarrow 9 + 1 = 10$$

$$s^2 - 2ps = 9 + 1 = 10 \quad \Delta = b^2 - fac \rightarrow 9 + 1 = 10$$

$$\left(\frac{v}{8}\right) + \left(\frac{q}{9}\right) = \frac{v^2}{8 \cdot 9 \cdot 1} + \frac{q^2}{9 \cdot 8 \cdot 1} = 21 + 34 = 55$$

$$\left(\frac{q}{9}\right) - \left(\frac{v}{8}\right) = \frac{q^2}{9 \cdot 8 \cdot 1} - \frac{v^2}{8 \cdot 9 \cdot 1} = 15 - 28 = -13$$

$$\left(\frac{q}{9}\right) - \left(\frac{v}{8}\right) = 15 - 28 = -13$$

$$\left(\frac{q}{9}\right) - \left(\frac{v}{8}\right) = 15 - 28 = -13$$