

$$\frac{\text{مطلوب}}{\text{معطى}} = \frac{5}{r} \rightarrow \frac{5+n}{r} = \frac{1+\sqrt{5}}{r} \rightarrow 5+n = r+\sqrt{5} \rightarrow r+n = r+\sqrt{5} \quad (1)$$

$$\Rightarrow n = r+\sqrt{5} - r \rightarrow \text{مطلوب} = 5 + r+\sqrt{5} - r = r+\sqrt{5}$$

$$S_1 = r \times 5 = r_0, S_2 = r(r+\sqrt{5}) = 1 + r+\sqrt{5} \rightarrow \frac{S_2}{S_1} = \frac{1+r+\sqrt{5}}{r_0} = \boxed{\frac{r+\sqrt{5}}{5}}$$

$$\begin{array}{c} x \\ \swarrow \searrow \\ \sqrt{x^2+y^2} \end{array} \rightarrow \frac{\text{مطلوب}}{\text{معطى}} = \frac{\sqrt{x^2+y^2}}{x} = \frac{1+\sqrt{5}}{r} \quad (2)$$

$$\rightarrow r\sqrt{x^2+y^2} = x(1+\sqrt{5}) \quad \text{بقرب} \rightarrow rx^2 + ry^2 = x^2(1+\sqrt{5}+2\sqrt{5})$$

$$\rightarrow rx^2 + ry^2 = x^2 + \sqrt{5}x^2 \rightarrow ry^2 = x^2 + \sqrt{5}x^2 \rightarrow y^2 = \frac{x^2 + \sqrt{5}x^2}{r}$$

$$\text{بقرب} = \left(\frac{x}{y}\right)^2 = \frac{x^2}{y^2} = \frac{x^2}{\frac{x^2 + \sqrt{5}x^2}{r}} = \frac{rx^2}{x^2 + \sqrt{5}x^2} = \frac{r}{1+\sqrt{5}}$$

$$\rightarrow \frac{x}{y} = \sqrt{\frac{r}{1+\sqrt{5}}} \rightarrow \frac{x}{y} = \frac{1}{\sqrt{\frac{1+\sqrt{5}}{r}}} = \boxed{\sqrt{\frac{r}{1+\sqrt{5}}}} \leftarrow \text{جواب}$$

$$ra + \sqrt{ra^2 + fa} = r \rightarrow \sqrt{ra^2 + fa} = r - ra \rightarrow \sqrt{ra^2 + fa} = -\sqrt{ra^2 + fa} \quad (3)$$

$$\sqrt{ra^2 + fa} = -\sqrt{ra^2 + fa} \rightarrow \sqrt{ra^2 + fa} = -\sqrt{ra^2 + fa} \rightarrow \sqrt{ra^2 + fa} = -\sqrt{ra^2 + fa}$$

$$ra^2 - 14a + f = 0 \rightarrow a = \frac{r}{2}, \frac{f}{r} \rightarrow a = r, \frac{a+1}{a} = \left(\frac{r}{r}\right)$$

$$a = \frac{r}{r} = \frac{r}{r} \rightarrow \frac{a+1}{a} = \frac{r}{r} \rightarrow \frac{a+1}{a} = \frac{r}{r} \quad (4)$$

$$\frac{\sqrt{x+1}}{r+\sqrt{x+1}} = \frac{\sqrt{a+1}}{r-\sqrt{a+1}} = \frac{r\sqrt{a+1} - \sqrt{a^2-1} - r\sqrt{a+1} - \sqrt{a^2-1}}{10-m} = \frac{-2\sqrt{a^2-1}}{10-m} = \frac{r\sqrt{a^2-1}}{a-10} \quad (5)$$

$$(\sqrt{a+1})(\sqrt{a+1})$$

$$\rightarrow \frac{r\sqrt{a^2-1}}{a-10} = \frac{a-1}{\sqrt{a-1}} \rightarrow r\sqrt{a+1} = a-1$$

$$a^2 - 2fa + 4f = 0 \rightarrow a = \frac{f(2 \pm \sqrt{4-4})}{2} = \frac{f(2 \pm 0)}{2} = \frac{2f}{2} = f$$

کتاب عالی

یازم سیرا قریب

امید فرخانی

Year: Month: Date: ( )

$$\frac{1}{x + \sqrt{x-m}} - \frac{1}{x - \sqrt{x-m}} = \frac{x-m}{a\sqrt{x-m}}$$

(5)

$$\frac{x - \sqrt{x-m} - x - \sqrt{x-m}}{x+m} = \frac{-2\sqrt{x-m}}{x+m} = \frac{\sqrt{x-m}}{a\sqrt{x-m}} \rightarrow (-2)(1) = x+m$$

$$-2 = x+m \rightarrow m = -12$$

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

$$\frac{a^x - a^{x+1}}{a^x(1-a)^x} = \frac{14}{9} \rightarrow \frac{a^x - a^{x+1}}{a^x(1-a)^x} = \frac{14}{9}$$

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

$$\frac{a^x - a^{x+1}}{a^x(1-a)^x} = \frac{14}{9} \rightarrow \frac{a^x - a^{x+1}}{a^x(1-a)^x} = \frac{14}{9}$$

$$14a^x - 14a^{x+1} = 9a^x - 9a^{x+1} \rightarrow 5a^x - 5a^{x+1} = 0 \rightarrow 5a^x(1-a) = 0 \rightarrow a = 1$$

$$14a^x - 14a^{x+1} = 9a^x - 9a^{x+1}$$

داده شده  $\rightarrow$  حل شده

$$\text{I} \Rightarrow -a^x + 4a^x - 1 \geq 0 \rightarrow a \in [1, 4]$$

$$\text{II} \Rightarrow -a^x + 4a^x + 20a^x - 100 \geq 0 \rightarrow a \in [1, 25] \mid a \in [1, 25]$$

$$\text{I} \cap \text{II} \Rightarrow a = 4 \rightarrow a = 4$$

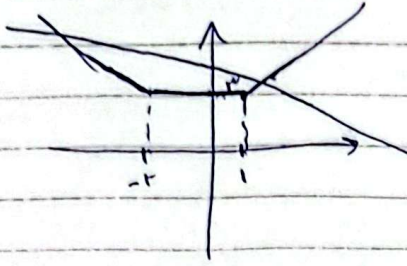
$$a = 4 \rightarrow \text{جواب} = 4 \rightarrow \text{پایان}$$

تکلیف عدد ۱۸

بازار به آید

اصحیح نیر خواست

Year: Month: Date: ( )



$$3y + m = 1V \rightarrow y = \frac{m-1V}{3}$$

(1)

$$y = |m+2| + |m-1| \rightarrow \begin{cases} m+2+m-1 = 2m+1 \\ -m-2-m+1 = -2m-1 \\ m+2-m+1 = 3 \end{cases}$$

$$(1) \rightarrow 3(-2m-1) + m = 1V \rightarrow -4m - 3 + m = -3m - 3 = 1V \rightarrow m = -4$$

$$A(-4, 1V)$$

$$(2) \rightarrow 3(2m+1) + m = 1V \rightarrow 4m + 3 + m = 5m + 3 = 1V \rightarrow m = 2$$

$$B(2, 2)$$

$$\rightarrow AB = \sqrt{\left(\frac{2-(-4)}{4}\right)^2 + \left(\frac{1V-(-3)}{1V}\right)^2} = \sqrt{34 + 16} = \sqrt{50} = 5\sqrt{2}$$

$$y = \sqrt{m^2 - 8m + 8} = \sqrt{(m-4)^2} = |m-4|$$

(4)

$$m-4 = \frac{1}{4}m + 2 \rightarrow m = 8 \rightarrow y = 4 \rightarrow (8, 4)$$

$$m-4 = -\frac{1}{4}m - 2 \rightarrow m = 0 \rightarrow y = 2 \rightarrow (0, 2)$$

$$\rightarrow \text{این دو نقطه را در یک خط مستقیم قرار دهیم} \rightarrow \text{مساحت اول} \rightarrow \text{مساحت} = 2 - 0 = 2$$

$$\text{ارتفاع} = \left(\frac{1}{4}\right)(2) + 2 = 2.5$$

$$\left\{ \frac{1}{2} \times 2 \times 2.5 \right\}$$

$$\text{مساحت دوم} \rightarrow \text{مساحت} = 8 - 2 = 6$$

$$\text{ارتفاع} = \text{ارتفاع اول} = 2.5$$

$$\left\{ \frac{1}{2} \times 4 \times 2.5 \right\}$$

$$\rightarrow S_T = 4 + 3 = 7 \leftarrow \frac{1}{2}$$

$$\text{فرجه} = x + 9$$

$$\text{میز} = x$$

$$\rightarrow \text{مساحت} \rightarrow \frac{1}{m} + \frac{1}{m+9} = \frac{m+9+m}{m^2+9m} = \frac{2m+9}{m^2+9m}$$

(10)

$$\rightarrow \text{مساحت} \rightarrow \frac{2m+9}{m^2+9m} = 1 \rightarrow \frac{2m+9}{m^2+9m} = 1 \rightarrow 2m+9 = m^2+9m$$

$$m^2 - 7m - 9 = 0 \rightarrow m = 34, -3 \rightarrow \text{مساحت} = 34 \times 9 = 306$$