

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

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

$$x = \frac{1}{2} \Rightarrow \frac{1}{2} + \frac{1}{2} + 1 = 2$$

$$-x^2 + 4x - 4 \geq 0 \rightarrow x^2 - 4x + 4 \leq 0 \rightarrow x \in [2, 2] \quad (1) \quad (1) \cap (2) = [2, 2] \cap [2, 2] = 2$$

$$-x^2 + 2x^2 + 2x - 1 \geq 0 \rightarrow x(x-1)(x+1) \geq 0 \quad (2) \quad x \in [2, \infty)$$

$$\sqrt{2} + \sqrt{2} + 2 = 4$$

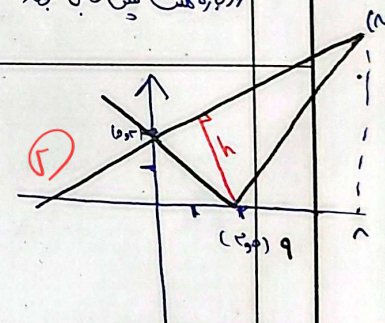
$$y = \frac{14-x}{x}$$

$$(1) x > 1 \rightarrow |x+2| = x+2 \quad |x-1| = x-1 \rightarrow x+2+x-1 = 2x+1 \quad 2x+1 = \frac{14-x}{x} \rightarrow x=2 \quad y=5$$

$$(2) -2 \leq x < 1 \rightarrow |x+2| = x+2 \quad |x-1| = 1-x \rightarrow x+2+1-x = 3 \rightarrow 3 = \frac{14-x}{x} \rightarrow x=1 \quad y=13$$

$$(3) x < -2 \rightarrow |x+2| = -x-2 \quad |x-1| = 1-x \rightarrow -x-2+1-x = -2x-1 \rightarrow -2x-1 = \frac{14-x}{x} \rightarrow -4x-3 = 14-x \rightarrow x=-5 \quad y=3$$

$$AB = \sqrt{(2+5)^2 + (5-13)^2} = \sqrt{49+64} = \sqrt{113}$$



$$y = \frac{1}{x} \rightarrow -\frac{1}{x} + y = 0 \Rightarrow \frac{(-1-2)}{\frac{1}{2}+1} = \frac{y}{\frac{1}{2}} = h$$

$$\Rightarrow \sqrt{9+4} = \sqrt{13} = h$$

$$S = \frac{1}{2} \times \sqrt{13} \times \frac{1}{2} = \frac{\sqrt{13}}{4}$$

$$B = \frac{1}{x}, F = \frac{1}{x+2} \rightarrow \frac{1}{x} + \frac{1}{x+2} = \frac{1}{10} \rightarrow \frac{x+2+x}{x^2+2x} = \frac{1}{10} \rightarrow x^2+2x = 10x+20$$

$$x^2-8x-20 = 0 \rightarrow (x-10)(x+2) = 0 \Rightarrow x=10 \quad y=\frac{1}{10}$$

$$x=-2 \quad y=-\frac{1}{2}$$

نام و نام خانوادگی پاشنامه تشریحی تکلیف شماره ۱۸۰ کلاس

$\frac{x}{y} = \frac{a}{2} \rightarrow y = \frac{2x}{a}$ طول y عرض

$\frac{x+a}{y} = \frac{\sqrt{a+1}}{2} \rightarrow \frac{a}{2} + \frac{a}{y} = \frac{\sqrt{a+1}}{2} \Rightarrow \frac{a}{y} = \frac{2\sqrt{a+1}}{2} - \frac{a}{2} \quad \frac{a}{y} = \frac{2\sqrt{a+1}}{2} \Rightarrow \frac{a}{2} \times \frac{a}{x} = \frac{2\sqrt{a+1}}{2}$

نسبت مساوی: $\frac{x+ay}{xy} \rightarrow 1 + \frac{a}{x} \rightarrow 1 + \frac{2\sqrt{a+1}}{a} = \frac{2\sqrt{a+1}}{a}$

$\frac{a}{x} = \frac{2\sqrt{a+1}}{a}$

$\left(\frac{x}{y}\right)^2 = ? \quad d^2 = x^2 + y^2 \rightarrow d = \sqrt{x^2 + y^2}$

$\frac{d}{x} = \frac{\sqrt{a+1}}{2} \rightarrow \frac{\sqrt{x^2 + y^2}}{x} = \frac{\sqrt{a+1}}{2} \rightarrow \frac{x^2 + y^2}{x^2} = \frac{a+1}{4} \quad 1 + \left(\frac{y}{x}\right)^2 = \frac{a+1}{4}$

$\rightarrow \left(\frac{y}{x}\right)^2 = \frac{a+1}{4} - 1 = \frac{a+1-4}{4} = \frac{a-3}{4} \quad \frac{\sqrt{x^2 + y^2}}{x} = \frac{\sqrt{a+1}}{2} \rightarrow \frac{x^2 + y^2}{x^2} = \frac{a+1}{4} \rightarrow \frac{y^2}{x^2} = \frac{a+1}{4} - 1 = \frac{a-3}{4}$

$\sqrt{a^2 + 8a} = 2 - 3a \rightarrow 2a^2 + 8a = 4 - 12a + 9a^2 \rightarrow 7a^2 - 14a + 4 = 0$

$\rightarrow (7a-4)(a-1) = 0 \quad \begin{cases} a=1 \rightarrow 9+8=17 \neq 2 \\ a=\frac{4}{7} \rightarrow \frac{4}{7} + \sqrt{\frac{4}{7} + 8} = \frac{4}{7} + \sqrt{\frac{4+56}{7}} = \frac{4}{7} + \sqrt{\frac{60}{7}} = 2 \checkmark \end{cases}$

$\frac{a+1}{a} = 1 + \frac{1}{a} \rightarrow 1 + \frac{1}{\frac{4}{7}} = \frac{7}{4} = 1.75$

طرف راست معادله $\frac{2\sqrt{x+1} - \sqrt{x-1}}{9-x+1} = \frac{-2\sqrt{x+1}}{10-x} \quad \frac{-2\sqrt{x+1}}{10-x} = \frac{x-1}{\sqrt{x-1}}$

$-2\sqrt{x+1}(\sqrt{x+1}) = (x-1)(10-x) \rightarrow -2(x+1) = (x-1)(10-x) \rightarrow 2x^2 + 10x + 10 = 0$

$\Delta > 0 \rightarrow \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \rightarrow \frac{-10 \pm \sqrt{100 - 80}}{4} \rightarrow \frac{-10 \pm \sqrt{20}}{4}$

مفروض $\frac{2-\sqrt{2-x}}{2+x} = \frac{2+\sqrt{2-x}}{2+x} = \frac{-2\sqrt{2-x}}{2+x} = \frac{2-x}{2\sqrt{2-x}} \rightarrow \frac{2-x}{2\sqrt{2-x}} = \frac{-10(2-x)}{2\sqrt{2-x}}$

$x^2 + 6x - 20 = 0 \rightarrow (x-2)(x+10) = 0 \rightarrow \begin{cases} x=2 \checkmark \\ x=-10 \checkmark \end{cases}$

کتاب مسئله؟ صحت دارد

اگر $a=2$ خارج عبارت را صفر می کند