

19, 175

نام و نام خانوادگی: ... پاسخنامه تشریحی تکلیف شماره 18 کلاس بیست و نهم B

$\frac{x-5}{2} \cdot \frac{5}{4} \cdot 4y \cdot \frac{x-5}{2} \cdot \frac{5+2}{2} \cdot 4y \cdot \frac{x-5+2}{2}$ (2)

$\frac{5+2}{2} \cdot \frac{\sqrt{5}+1}{2} \rightarrow \frac{10+2\sqrt{5}+4}{4} \rightarrow \frac{2\sqrt{5}+3}{2}$

$\frac{2+2\sqrt{5}}{4} \cdot \frac{x}{2} \rightarrow \frac{x \cdot 2}{x \cdot 2} \cdot \frac{8\sqrt{5}+8}{20} \rightarrow \frac{2\sqrt{5}+2}{5} \checkmark$

$2 \cdot \frac{\sqrt{x^2+y^2}}{2} \cdot \frac{\sqrt{5}+1}{2} \rightarrow \sqrt{5}x+x-2\sqrt{x^2+y^2}$ (2)

$5x^2+x^2+2\sqrt{5}x^2-4x^2+4y^2 \rightarrow 2x^2+2\sqrt{5}x^2-4y^2$

$x^2+\sqrt{5}x^2-2y^2 \rightarrow (1+\sqrt{5})x^2-2y^2 \rightarrow \frac{x^2}{2^2} - \frac{2}{1+\sqrt{5}} \checkmark$

$3a+\sqrt{2a^2+4a}-2 \rightarrow 3a-2-\sqrt{2a^2+4a}$ (2)

$9a^2+4-12a-\sqrt{2a^2+4a} \rightarrow 7a^2-16a+4=0 \rightarrow \Delta=144$

$\frac{16 \pm 12}{14} = 2, \frac{+4}{14}$

$\frac{a+1}{2} \cdot \frac{a-2}{2} \rightarrow \frac{a^2-1}{4} \rightarrow \frac{a^2-1}{4} = 0 \rightarrow a^2-1=0 \rightarrow a=1, -1$

$\frac{\sqrt{x+1}}{\sqrt{x-1}+3} - \frac{\sqrt{x+1}}{3-\sqrt{x-1}} \cdot \frac{x-1}{x-1} \rightarrow \frac{3\sqrt{x+1}-\sqrt{x^2-1}-\sqrt{x^2-1}-3\sqrt{x+1}}{9-x+1} \cdot \frac{x-1}{x-1}$

$\frac{-2\sqrt{x^2-1}}{9-x+1} \cdot \frac{x-1}{x-1} \rightarrow \frac{-2\sqrt{x+1}}{9-x+1} \cdot \frac{x-1}{x-1} \rightarrow \frac{-2\sqrt{x+1}}{9-x+1} \cdot \frac{x-1}{x-1}$

$x \geq 10$

در این از روشی خاص استفاده است!

$\frac{1}{\sqrt{2-x}+2} - \frac{1}{2-\sqrt{2-x}} \cdot \frac{2-x}{2-x} \rightarrow \frac{-2\sqrt{2-x}}{2+x} \cdot \frac{2-x}{5\sqrt{2-x}}$ (2)

$\frac{-2\sqrt{t}}{4-t} \cdot \frac{t}{5\sqrt{t}} \rightarrow -10t \cdot t \cdot t^2 - 14t = 0$

$t=0, 14$

$2-x=0 \rightarrow x=2$
 $2-x=14 \rightarrow x=-12$

$$\frac{1}{x^2 + \frac{1}{(1-x)^2}} \cdot \frac{160}{9} \rightarrow \frac{2x^2 - 2x + 1}{(x(x-1))^2} = \frac{2(x^2 - x) + 1}{(x(x-1))^2} = \frac{160}{9} \Rightarrow x = t$$

$$\frac{2t+1}{t^2} \sim \frac{160}{9} \xrightarrow{+1} \frac{t^2 + 2t + 1}{t^2} \sim \frac{169}{9} \xrightarrow{\sqrt{\cdot}} \frac{t+1}{t} \sim \frac{13}{3}$$

$$t \sim \frac{3}{10} \rightarrow \frac{3}{16} \rightarrow x^2 - x \sim \frac{3}{16} \rightarrow 5x = 1 \rightarrow x = \frac{1}{5} \rightarrow \boxed{2} \checkmark$$

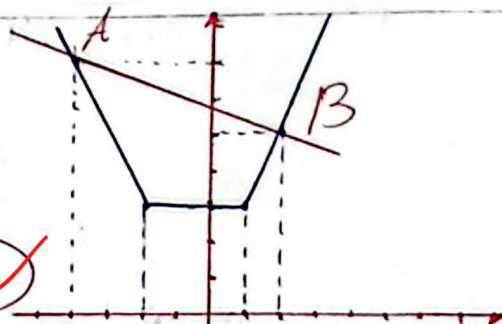
$$\sqrt{x + \sqrt{-x^3 + 4x^2 + 25x + 100}} + \sqrt{x^2 + \sqrt{-x^2 + 8x - 8}} = x + 2$$

$(x+5)(x-4)(x-5)$
 $-\frac{(x-2)(x-4)}{2}$
 $\frac{-5}{-} \frac{1}{+} \frac{5}{-}$
 $\frac{-}{+} \frac{+}{-} = \boxed{4} \checkmark$

$$3y + x = 17 \quad |y| = |x+2| + |x-1|$$

$$A \sim \begin{pmatrix} -4 \\ 7 \end{pmatrix} \quad B \sim \begin{pmatrix} 2 \\ 5 \end{pmatrix}$$

$$AB \sim \sqrt{(2+4)^2 + (5-7)^2} = \sqrt{40} \sim 2\sqrt{10} \checkmark$$



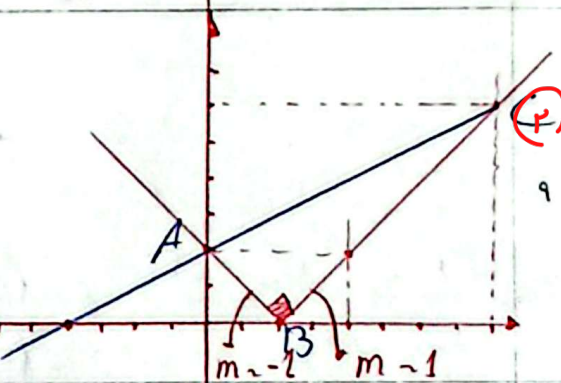
$$L: \frac{1}{2}x + 2 \quad |y| = \sqrt{x^2 - 4x + 4}$$

$$L: |x-2|$$

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

$$BC \sim \sqrt{36+36} = 6\sqrt{2}$$

$$S_{ABC} \sim \frac{2\sqrt{2} \cdot 6\sqrt{2}}{2} = 12 \checkmark$$



$$B \sim x \rightarrow x \quad \left. \begin{array}{l} F \sim x+9 \end{array} \right\} \rightarrow \frac{1}{x} + \frac{1}{x+9} = \frac{1}{20} \rightarrow \frac{x+x+9}{x^2+9x} = \frac{1}{20}$$

$$40x + 180 = x^2 + 9x \rightarrow x^2 - 40x - 180 = 0 \rightarrow x = 36 \checkmark$$

$$x+9 = 45 = F$$