

DATE :

SUBJECT :

کلاس: نهم درس: جبر

موضوع: معادلات

نام و نام خانوادگی: ...

۲۰

-۱

$$\frac{x}{2} = \frac{\sqrt{5}+1}{2} \rightarrow x = \sqrt{5}+1$$

$$\text{تکثیر با ۵} = \frac{5x(\sqrt{5}+1)}{5} = \frac{5(\sqrt{5}+1)}{5}$$

۲

$$\frac{1}{\sqrt{5}} = \frac{1+\sqrt{5}}{2}$$

-۲

$$5x = (1+\sqrt{5})^2 \cdot 5 = 1 + 2\sqrt{5} + 5 = 2\sqrt{5} + 6$$

۳

$$\left(\frac{1}{\sqrt{5}}\right)^2 = \frac{1}{5} = \frac{2\sqrt{5}+6}{5} = \frac{2\sqrt{5}+6}{5} = \frac{\sqrt{5}+3}{2}$$

$$\sqrt{2a^2+4a} = 2-3a \rightarrow 2a^2+4a = 4-12a+9a^2 \rightarrow 7a^2-16a+4=0$$

۴

$$\rightarrow a^2 - 16a + 4 = 0 \rightarrow (a-16)(a-1) = 0 \rightarrow a = 16 \text{ یا } a = 1$$

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

$$(\sqrt{x-1}+3)(\sqrt{x+1}) - (\sqrt{x+1})(3-\sqrt{x-1}) = \sqrt{x-1}(9-x+1)$$

-۴

$$\rightarrow 2(\sqrt{x-1})(\sqrt{x+1}) = (\sqrt{x-1})(4-x) \rightarrow -2\sqrt{x-1} = 4-x$$

۵

$$\rightarrow 16x+4=0 \rightarrow x^2-2x+9=0 \rightarrow \Delta = 4-36 = -32$$

معادله را حل می کنیم: $\sqrt{x-1} = 0 \rightarrow x=1$ فقط

$$2-\sqrt{2-x} = \sqrt{2-x} \rightarrow 2 = 2\sqrt{2-x}$$

-۵

$$\rightarrow \sqrt{2-x} = 1 \rightarrow 2-x = 1 \rightarrow x = 1$$

۶

$$\sqrt{2-x} = 0 \rightarrow x = 2$$

مجموع جوابها: ۱ و ۲

$$\frac{r^2 - r + 1}{r^2(1-r)^2} = \frac{14}{9} \rightarrow \frac{r(2(r-1) + \frac{1}{r})}{(r(r-1))^2} = \frac{r}{r(r-1)} + \frac{1}{(r(r-1))^2}$$

$$\frac{r}{r} + \frac{1}{r^2} = \frac{14}{9} \rightarrow \frac{r^2 + 1}{r^2} = \frac{14}{9} \rightarrow 14r^2 - 11r - 9 = 0$$

$$r = \frac{11 \pm \sqrt{11^2 + 4 \cdot 14 \cdot 9}}{2 \cdot 14} \quad \left\{ \begin{array}{l} \frac{r}{1} \\ -\frac{9}{14} \end{array} \right.$$

$$\left. \begin{array}{l} r^2 - r - 0.1r = 0 \rightarrow s=1 \\ r^2 - r + \frac{r}{14} = 0 \rightarrow s=1 \end{array} \right\} 1+1=2$$

$$\sqrt{x + \sqrt{-x^2 + 6x^2 + 4x - 1}} + \sqrt{x^2 + \sqrt{-x^2 + 4x - 1}} = x + 1$$

$$\left. \begin{array}{l} 1) (x+6)(x-2) = 0 \rightarrow \begin{array}{l} x=6 \\ x=2 \end{array} \quad D_1 = [2, 6] \\ 2) - (x-6)(x-4)(x+4) \geq 0 \rightarrow \frac{-4 \cdot 6 \cdot 4}{+1-1+1} = - \rightarrow D_2 = (-\infty, -4] \cup [6, 4] \end{array} \right\} D_{1,2} = \emptyset$$

$$x=6 \rightarrow \sqrt{6+0} + \sqrt{17+0} = 2+6=8 \rightarrow x=6 \text{ is a solution}$$

$$y = |x+2| + |x-1|, \quad 3y + x = 14$$

$$x \leq -2 \rightarrow -x-2-x+1 = \frac{x}{2} + \frac{14}{3} \rightarrow -2x-1 = \frac{14}{3} + \frac{x}{3} \rightarrow \frac{4x}{3} = \frac{r}{c} \rightarrow x = -c, y = v$$

$$-2 \leq x \leq -1 \rightarrow +x+2-x+1 = \frac{-x}{2} + \frac{14}{3} \rightarrow \frac{-x}{2} = \frac{9}{3} - \frac{14}{3} \rightarrow \frac{-x}{2} = -\frac{5}{3} \rightarrow x = \frac{10}{3} \quad \times$$

$$x \geq -1 \rightarrow +x+2+x-1 = \frac{-x}{2} + \frac{14}{3} \rightarrow 2x+1 = \frac{14}{3} - \frac{x}{3} \rightarrow \frac{7x}{3} = \frac{11}{3} \rightarrow x = 2, y = 4$$

$$AB = \sqrt{(2+6)^2 + (4-0)^2} = \sqrt{68}$$

$$y \leq \sqrt{x^2 - 4x + 6} = |x-2| \quad y = \frac{1}{2}x + 2$$

$$\frac{1}{2}x + 2 = x - 2 \rightarrow x = 4, y = 4$$

$$\frac{1}{2}x + 2 = -x + 2 \rightarrow x = 0 \rightarrow y = 2$$

$$AB = \sqrt{2^2 + 4^2} = \sqrt{20}$$

$$BC = \sqrt{2^2 + 0} = \sqrt{4}$$

$$s = \frac{\sqrt{20} \times \sqrt{4}}{2} = \sqrt{10}$$

$$\left. \begin{array}{l} B = \text{box} = 6 \\ F = \text{box} = 6-9 \end{array} \right\} \text{prob} = 24\%$$

$$\frac{1}{t} + \frac{1}{t-9} = \frac{1}{r} \rightarrow \frac{r(t+9)}{t(t+9)t} = \frac{1}{r} \rightarrow 8 \cdot t + 11 = t^2 + 9t$$

$$\rightarrow t^2 - r(t+9) - 11 = 0 \rightarrow (t-9)(t+4) = 0 \quad \left\{ \begin{array}{l} r = t \checkmark \\ t = -4 \times \end{array} \right. \quad \left\{ \begin{array}{l} \text{box} = 37 \\ \text{box} = 27 \end{array} \right.$$