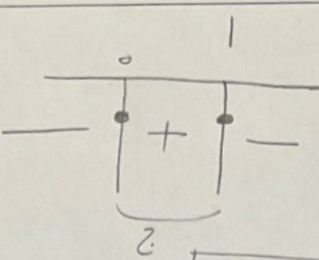
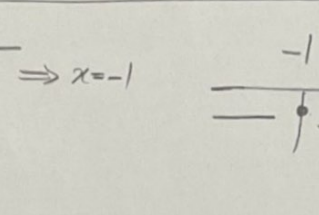
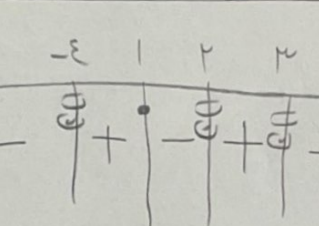
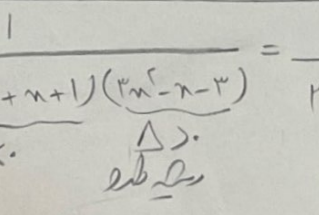
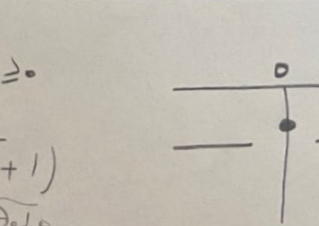


14, 15

نام و نام خانوادگی: زهرا حبیبی  
پاسخنامه تشریحی تکلیف شماره: کلاس: ...

$x^r f(x+1) \geq 0$ <p><math>x &lt; 0</math></p> $\left(\frac{1}{x}\right)^{x-r} = 1$ $\hookrightarrow x-r = 1 \Rightarrow x=1$	 $D_f = [0, 1]$	<p>1</p>
$f(x) = \sqrt{x+ x+2 } \Rightarrow x=-1$	 $D_{f(x)} = [-1, +\infty)$ $\downarrow x-1$	<p>2</p>
$f(x) = \sqrt{-x- x+2 } \geq 0$ $\hookrightarrow x=1$	 $D_{f(x)} = (-\infty, 1] \cup (2, 3)$	<p>3</p>
$\frac{1}{9x^2 - \sqrt{x^2 - 3} - 3} \leq \frac{1}{(x^2 + x + 1)(x^2 - x - 3)}$ <p><math>\Delta &lt; 0</math>      <math>\Delta &gt; 0</math></p> $\hookrightarrow x^2 - x - 3 = x^2 + ax + b$ $\sqrt{\frac{-(-1-3)}{1}} = 2$ $\hookrightarrow a = -1, b = -3$	 $D_f = (-1, 3]$	<p>4</p>
$f(x) - f\left(\frac{x}{x}\right) \geq 0$ <p><math>x(x+1)</math>      <math>x(x+1)</math></p> <p><math>\odot \oplus_{x &lt; -1}</math>      <math>\odot \oplus_{x &gt; 0}</math></p>	 $D_f = [0, +\infty)$	<p>5</p>

$$\begin{aligned} x^3 + x &= 2 \rightarrow x^3 + x - 2 = 0 \xrightarrow{0 = 2^2} x = 1 \\ x^3 + x &= 10 \rightarrow x^3 + x - 10 = 0 \xrightarrow{\text{حل اول}} x = 2 \end{aligned}$$

5

$$\begin{aligned} f(1) &= 1(1) - 1 = 1 \\ f(10) &= 1(10) - 1 = 9 \Rightarrow f(1) + f(10) = \boxed{10} \end{aligned}$$

$$f(x) = (x-2)^3 + 1 = 14$$

$$\sqrt{x+2}$$

$$g(x) = (x+3)^3 - 27 = -27$$

$$\frac{-27}{10} = \boxed{-\frac{27}{10}} = -2.7$$

1.5

$$t = \sqrt{x-2} \rightarrow f(x) = \sqrt{t^2 + 2t + 2} = \sqrt{(t+1)^2} = t+1$$

$$g(x) = \sqrt{t^2 - 2t + 2} \rightarrow \sqrt{(t-1)^2} = |t-1|$$

$$x \geq 1 \rightarrow t \geq 0 \rightarrow t+1+t-1 = 2t = 2\sqrt{x-2} = a+b\sqrt{x+c}$$

$$\begin{aligned} a &= 0 \\ b &= 2 \\ c &= -2 \end{aligned} \rightarrow \frac{a+b}{c} = \boxed{-\frac{1}{2}}$$

$$\frac{g}{f} \quad f(x) = \frac{x+2}{(x-3)(x-1)} \quad g(x) = \left\{ (2, 1), \underbrace{(1, 0)}_x, \underbrace{(3, 0)}_x, (0, 2) \right\}$$

$$f(x) \neq 0 \rightarrow x \neq -2, 3 \Rightarrow \text{این نقاط در دامنه ی f نیستند}$$

$$\Rightarrow \left\{ \left( 2, \frac{1}{2} \right), (0, 2) \right\}$$

$$\text{الف) } \left\{ (2, 2), (9, -1), (19, 2), (-2, 4) \right\} \quad \left\{ \left( \frac{1}{2}, 1 \right), \left( \frac{5}{2}, -1 \right), (19, 2), \left( \frac{1}{2}, 4 \right) \right\}$$

$$\Rightarrow \left\{ (2, 2), (9, -1), (19, 2), (1, 4) \right\}$$

$$\text{ج) } \left\{ (-2, \sqrt{19}), (1, 3), (3, 9), (-1, 1) \right\}$$

$$\Rightarrow \left\{ (2, -2), \left( 2, -\frac{1}{2} \right), \left( -1, \frac{1}{2} \right) \right\} \quad \left\{ (1, -2), (3, -1) \right\}$$

1.75

$$\frac{(a^r, r)(a^r, r+14)}{a^r} \gg. \quad Df = [-r, \cdot) \cup (r, +\infty)$$

(6)

$$\begin{array}{c} -r \quad \cdot \quad r \\ -\phi + \phi \quad -\phi + \end{array}$$

$$(ب. ١٥) \left\{ \begin{array}{l} a^r = 1 \rightarrow a = \pm 1 \\ a^r = r \rightarrow a = \pm r \\ a^r = r \rightarrow a = \pm r \\ a^r = -1 \rightarrow X \end{array} \right. \rightarrow \{(\pm 1, r)(\pm \sqrt{r}, -1)(\pm r, r)\}$$