

14, 15

نام و نام خانوادگی فریاد الماسی پاسخنامه تشریحی تکلیف شماره کلاس یازدهم دبیر B

$$f(x) = \sqrt{1-x^2} \quad g(x) = (-1, 1), (0, 4), (2, 0), (1, 2) \quad 2g - 3f$$

$$2g = (-1, 2), (0, 8), (2, 0), (1, 4)$$

$$3f = (-1, 0), (0, 3), (1, 0)$$

$$2g - 3f = [(-1, 2), (0, 8), (1, 4)] \rightarrow 2 + 8 + 4 = \boxed{14}$$

(2)

1

$$f(x) = 2x - 1 \quad D_f = [3, +\infty) \rightarrow f(3) - 1 = 5 \quad R_f = [5, +\infty)$$

$$g(x) = \frac{1}{x} x + 3 \quad D_g = (-\infty, 3] \rightarrow \frac{1}{3}(3) + 3 = 4 \quad R_g = (-\infty, 4]$$

$$R_f \cup R_g = (-\infty, 4] \cup [5, +\infty)$$

(2)

2

$$\frac{-x^2}{2} + x + 3 = \frac{3}{2} \xrightarrow{\times 2} -x^2 + 2x + 6 = 3 \quad -x^2 + 2x + 3 = 0$$

$$x^2 - 2x - 3 = 0 \quad (x-3)(x+1) \rightarrow \begin{cases} x=3 \\ x=-1 \end{cases} \quad \max x = \sqrt{b-a} \rightarrow \sqrt{3-(-1)} = \sqrt{4} = \boxed{2}$$

(2)

3

1	2	3	4
$-x+1-x+3-2x+4$	$x-1-x+3-2x$	$x-1-x+3+2x$	$x-1+x-3+2x-5$
$-3x+8$	$-2x+2$	$x-2$	$3x-7$
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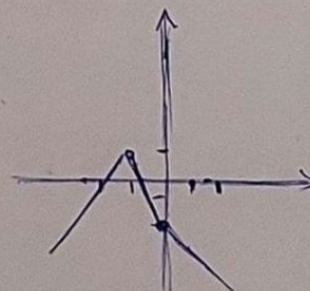
$$x=2 \quad |2-1| + |2-3| + |3-2| = \boxed{2}$$

(2)

4

$$y = |x| - 2|x+1|$$

-1	0	1
$-x+2x+2$	$-x-2x-2$	$x-2x-2$
$x+2$	$-3x-2$	$-x-2$



$$R_f = (-\infty, 1]$$

(2)

5

$$\frac{x^r + \omega x + m}{x+1} = y \quad x^r + \omega x + m = yx + y \quad x^r + (\omega - y)x + (m - y) \rightarrow$$

$$\Delta \geq 0 \quad (\omega - y)^r - 4 \times 1 \times (m - y) = y^r - 4m - 4y + 4\omega \xrightarrow{-\frac{b}{2a} = r} 9 - 4m - 14 + 4\omega$$

$$\Rightarrow 14 - 4m \geq 0 \quad 4m \leq 14 \quad m \leq \frac{7}{2}$$

$$x+1 \neq 0 \quad x \neq -1 \quad \frac{x^r + (\omega - y)x + (m - y)}{x+1} \quad m - r = 0 \quad m = r \rightarrow y = -1 \times$$

$$m \rightarrow m < r \quad [1, 2, 3]$$

(5) 6

$$f(x) = \begin{cases} x+2 & x \geq 3 \xrightarrow{x=3} [\omega, +\infty) \textcircled{1} \\ x^r - 2x + 2 & 0 \leq x < 3 \xrightarrow{x=0} [1, \omega) \textcircled{2} \\ |x| + 2 & x < 0 \xrightarrow{x=0} (2, +\infty) \textcircled{3} \end{cases}$$

(5)

Y

$$\textcircled{1} \cap \textcircled{2} \cap \textcircled{3} = [1, +\infty)$$

$$f(x) = \begin{cases} x^r + rx + r & x \leq 0 \rightarrow x = -\frac{b}{2a} = -r \quad y = (-r)^r + r(-r) + r = -1 \\ [rx] - 2x & x > 0 \quad [\dots, -r, -r, -1] \end{cases}$$

$$\textcircled{1} \cap \textcircled{2} = \mathbb{R}$$

(-1, .]

(1,0)

A

$$R = [-1, +\infty)$$

$$y = a+1 - \sqrt{2x+3} \quad 2x+3 \geq 0 \quad x \geq -\frac{3}{2} \quad b = -\frac{3}{2}$$

$$\hookrightarrow x = -\frac{3}{2} \quad y = a+1 - \sqrt{0} \quad \begin{matrix} \xrightarrow{(-\infty, \omega]} \\ y = a+1 \end{matrix} \quad a+1 = \omega \quad a = r$$

$$ab = rx = \frac{r}{r} = -4$$

(5)

9

$$r\sqrt{x+1} + r\sqrt{1-x} \rightarrow x+1 \geq 0 \quad x \geq -1 \quad 1-x \geq 0 \quad x \leq 1 \quad [-1, 1]$$

$p_f = p_g$

$$y = \frac{f(x)}{y} - \frac{g(x)}{r} \rightarrow \frac{f(x)}{y} - \frac{f+g}{r} + \frac{f(x)}{r} = \frac{f(x)}{r} - \frac{f(x)+f(y)}{r}$$

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

$$\frac{x=1}{x=-1} \rightarrow \sqrt{r} \rightarrow \frac{r f(x)}{y} - \frac{g(x)}{r} = [\sqrt{r}, 0] \quad [1, \sqrt{r}]$$

(1,0)

1.