

نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ۲۵ ..... کلاس ..... دوازدهم دبیرستان

$$f(x) = 1 - \frac{a}{x} \quad D_f = [1; 5] \rightarrow f(1) = 1 - a \rightarrow f(5) = 1 - \frac{a}{5} \rightarrow \frac{f(5) - f(1)}{5 - 1} = \frac{-\frac{a}{5} + a}{4} = \frac{a}{5} \rightarrow f'(x) = + \frac{a}{x^2} \rightarrow \frac{a}{x^2} = \frac{a}{5} \rightarrow x = \pm\sqrt{5}$$

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۳ نیسازناوی  $\rightarrow f(x) = x$   $D_f = (-\infty; 0]$

$$2ax^2 - 5x + 11a - 21 \xrightarrow{\text{مضرب ۲}} 4ax^2 - 10x + 22a - 42 = 2(2ax^2 - 5x + 11a - 21)$$

$$\rightarrow \Delta = b^2 - 4ac = 9 - 44a^2 = 0$$

$$\rightarrow a = \pm \frac{3}{11}$$

$\rightarrow \frac{2a}{-b} = \pm \frac{3}{5}$ 
 $\rightarrow \frac{-b}{2a} = \frac{5}{2}$  (بسیار  $\alpha$ )  
 $\rightarrow \frac{-b}{2a} = -\frac{5}{2}$  ( $\alpha < 0$ )  $\rightarrow a = -\frac{1}{11}$

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$2x^3 - 15x^2 + 2 \rightarrow f'(x) = 6x^2 - 30x$

$f'(x) = 6x^2 - 30x = 0 \rightarrow x = 0, 5$   
 $f''(x) = 12x - 30$   
 $f''(0) = -30 < 0$  (Max)  
 $f''(5) = 30 > 0$  (Min)

$f(0) = 2$   
 $f(5) = 250 - 375 + 2 = -123$

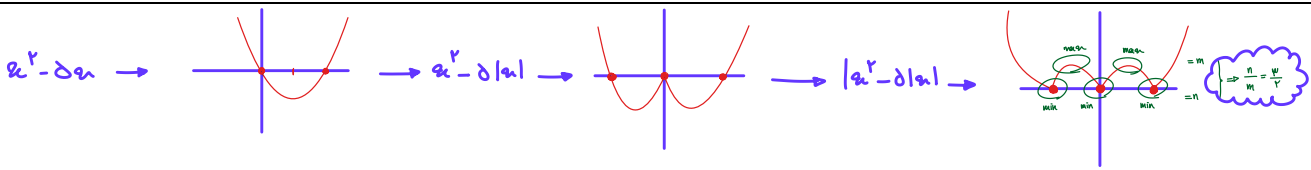
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$f(x) = x^3 + ax^2 - 2bx - 5 \rightarrow f'(x) = 3x^2 + 2ax - 2b$

$f'(0) = 0 \rightarrow b = 0$   
 $f'(x) = 3x^2 + 2ax \rightarrow f'(-2) = 12 - 4a = 0 \rightarrow a = 3$

$f(x) = x^3 + 3x^2 - 5 \rightarrow f(-2) = -8 + 12 - 5 = -1$   
 $f'(-2) = 0 \rightarrow d = \sqrt{(-2)^2 + (-1)^2} = \sqrt{5}$

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