

Subject:

Date:

18/20

Sa Su Mo Tu We Th Fr

الجمعة 18 ربيع الثاني 1441 هـ

x = a -> a^2 + 2a = a^2 - 4 -> 2a + 4 = 0 -> a = -2

3

g(x) = x + b = 3 -> b = 2 -> f(x) = (x+a)/(x+1) = (x-2)/(x+1) = 3 -> a = 16 - 4 = 12

3

f(1) = (1+1)/(1+1) = 2/2 = 1

x = -1 -> -1 - a + b = 0
x = 4 -> 16 + 4a + b = 0

3 - يعني به ازای -1 و 4 مضرب منفرجه

3

5a + 3b = 0 -> a = -9, b = -1 -> f(1) = (1+1)/(1-9+1) = 2/-7 = -2/7

x = -1 -> -1 - a + b = 0

4 - پس یعنی به ازای -1 و 4 مضرب منفرجه

3

b - 1 - a = 0 -> b - a = 1 -> b = 1 + a

-{x^2 + ax + b} = 0 -> x^2 + 14a + 48 = 0 -> (a+14)^2 = 0 -> a = -14 -> b = -8

b+a = -22

Delta < 0 -> x^2 - 4 < 0 -> (x-2)(x+2) < 0 -> -2 < x < 2

5 - (-2, 2)

x - 1/x > 0 -> x > 1/x -> x^2 > 1 -> x > 1 or x < -1

3

(-infinity, -1] union [1, +infinity)

Delta = f\_m^2 - f\_min = f\_m(m-1) -> m > 1 -> [0, 1]

(0, 1)

1, 0

x = 1/y -> y + k = 2 -> k = 0

2a - 1 = 0 -> a = 1/2 -> a + k = 1/2

3

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$$x = \frac{-2}{3} \rightarrow 2a + 2, -1 + b \rightarrow b + 2a, +4 \rightarrow 2a + 4 \rightarrow a = 3 \quad \text{9}$$

$$x = 1 \rightarrow \frac{9 - 8}{3 + 2} = 1 \rightarrow 3 + b \rightarrow b = -2 \quad \Rightarrow a - b = 3 + 2 = 5 \quad \text{10}$$

$$x = 2 \rightarrow 2a^2 + 2a + 4 \rightarrow a^2 + a - 2 = 0 \rightarrow (a + 2)(a - 1) = 0 \rightarrow a = -2, 1 \quad \text{11}$$

پاسخ سوال 10 و 11 می توان از روش دیگری استفاده کرد

$$(x - 1)^2 = x^2 - 2x + 1 \rightarrow m = -2$$

$$\{-2\} \cup \{-2, 2\} \rightarrow \{-2, 2\}$$

پاسخ سوال 12  
 اگر  $m = 0$  آنگاه  $f(x) = 1$  در تمام  $\mathbb{R}$  است  
 می توانیم  $m \in \{0, 1\}$  است