

17, 20

(a+b) = (B+d) => a=c, b=d

1

(a) (9x+2y), (3x-y, -4) => x/y = -1/3
(b) (-1-2), (1/x - 1/y, x^2 - y^2) => x/y = 1/2
5 (a) x^2 + y^2 = 9, x + 2y = -4 => x = -2 - 2y, x^2 + y^2 = 9 => 4 + 4y + 4y^2 + y^2 = 9 => 5y^2 + 4y - 5 = 0

(b) 1/x - 1/y = -1, 1/x + 1 = -1 => 1/x = -2 => x = -1/2
omega - v/y = -3, omega - omega/y - v/y = -3 => omega - v/y = -3 => -v/y = 2 => y = -1

f = [(a, 2a), (1, a+1), (1, -2), (2, b)] => تابع است => y تابع x
f(a) + f(x) = 3f(1)
-4 + 2b + (-2)x^2 = -2 => -4 + 2b = -2 => b = 1

15 (a) f = f(-1, m^2 - 3m), (3, omega), (-1, -2), (m+1, 2), (2, 4), (m^2+2, 4m+1)
m^2 - 3m = -2 => m^2 - 3m + 2 = 0 => (m-1)(m-2) = 0 => m=1, m=2
قبل قبول

m=1, m=2
(3, 4) != (2, 4)
از m=1 و 2 در تابع مقبول (2, 4)
خواص به اشتباه از آن
بصورت مقدار م تابع نیست

(a) y = -sqrt(x+1) => y^2 = x+1 => y^2 - 1 = x => y^2 - 1 = x
(b) x = y/sqrt(1-y^2) => x*sqrt(1-y^2) = y => x^2(1-y^2) = y^2 => x^2 - x^2y^2 = y^2 => x^2 = y^2(1+x^2) => x = y*sqrt(1+x^2)

25 (a) |y| = x, x=3 => y = +/- 3
(b) y^3 + 3y^2 + 3y + x^3 + x = 0
y^3 + 3y^2 + 3y + 1 + x^3 + x - 1 = 0 => (y+1)^3 = -x^3 - x - 1 => y+1 = -sqrt[3]{x^3 + x + 1}
y = -sqrt[3]{x^3 + x + 1} - 1

⑤ $f(x) = \frac{x^p + kx + \omega}{x^p + kx + v} = \frac{x^p + \epsilon x + v - p}{x^p + \epsilon x + v} = 1 + \frac{-p}{x^p + \epsilon x + v}$

$f(\sqrt{p}-r) = 1 + \frac{-p}{(\sqrt{p}-r)^p} = \frac{-p}{(\sqrt{p}-r)^p} + 1 = 1 - \frac{1}{\sqrt{p}} = \frac{p}{\sqrt{p}}$

$(\sqrt{p}-r)^p = v - \epsilon \sqrt{p}$

① $f(x) = x^p + ax + b \Rightarrow (-1, -r) \quad -r = -1 - 1 + b \Rightarrow b = -p$

$y - px + a = 0 \Rightarrow y = px - a \rightarrow -r = -p - a \Rightarrow a = 1$

$f(n) = x^p + n - p \quad n^p + n - p = p n - 1$

$y = p n - 1$

$x^p - p n - 1 = 0$

$(n+1)(x^p - n - 1) = 0$

$n = \frac{1+\sqrt{\omega}}{p} \quad n = \frac{1-\sqrt{\omega}}{p}$

$\Delta = 1 + \epsilon = \omega \quad \frac{1 \pm \sqrt{\omega}}{p}$

$\sum_{k=0}^{n-1} = \frac{1 + \sqrt{\omega} + 1 - \sqrt{\omega}}{p} = 1$

$\frac{x^p - p n - 1}{x^p + x^p} \quad \frac{n+1}{n^p - n - 1}$

$\frac{-x^p - p n - 1}{-n^p - n}$

$\frac{-n-1}{-n-1}$

$\frac{-n-1}{0}$

② $f = \{(p, a+b), (1, ka), (-1, a-pb+1)\}$

$a - pb + 1 = pa = a + b$

$ka = a + b \Rightarrow a = b$

$a - pb + 1 = pa$

$a - pa + 1 = ka$

$-a + 1 = pa \rightarrow a = \frac{1}{p} = b$

③ $f(x) = \frac{fx^p - ax + C + 1}{bx + p} = x$

$fx^p - ax + C + 1 = b x^2 + p x$

$a + b + C = f - p - 1 = 0$

$b = f$

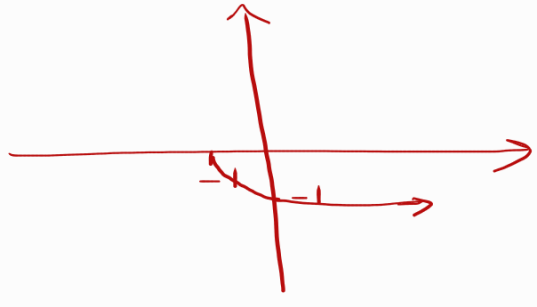
$-a = p \rightarrow a = -p$

$C + 1 = 0 \rightarrow C = -1$

الف $y = -\sqrt{x+1}$

$x = -1 \rightarrow y = 0$

$x = 0 \rightarrow y = -1$



ب) $x = \frac{y_1}{\sqrt{1-y_1^2}}$

$x = \frac{y_2}{\sqrt{1-y_2^2}}$

تابع حست $\frac{y_1}{\sqrt{1-y_1^2}} = \frac{y_2}{\sqrt{1-y_2^2}} \rightarrow \frac{y_1^2}{1-y_1^2} = \frac{y_2^2}{1-y_2^2}$

مخرجها + $y_1^2 - y_1^2 y_2^2 = y_2^2 - y_1^2 y_2^2$
مخرجها + $y_1^2 = y_2^2$
حست

$|y_1| = |y_2| \rightarrow y_1 = y_2$

تابع است