Chapter : 1.1

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Niyazi Babayeva

5) $f(t) = \frac{4}{3-t}$

$D = (-\infty; 3) \cup (3; \infty)$

$R = (-\infty; 0) \cup (0; \infty)$

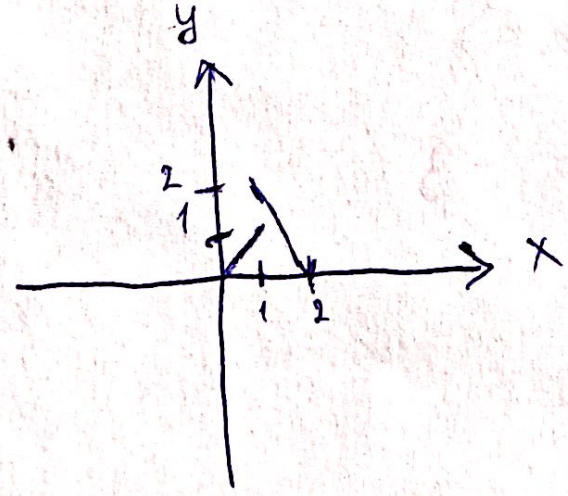
15) $f(x) = 5 - 2x$

$D = (-\infty; \infty)$

25) $f(x) = \begin{cases} x, & 0 \le x \le 1 \\ 2-x, & 1 < x \le 2 \end{cases}$

x	0	1
y	0	1

x	2
y	0



Chapter : 1.2

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Niyazi Babayeva

5) $f(x) = x + 5$
$g(x) = x^2 - 3$

a) $f(g(0)) = -3 + 5 = 2$

b) $g(f(0)) = 25 - 3 = 22$

c) $f(g(x)) = x^3 - 3x + 5$

d) $g(f(x)) = (x+5)^2 - 3 = x^2 + 10x + 22$

e) $f(f(-5)) = 5$

f) $g(g(2)) = -2$

g) $f(f(x)) = x^2 + 6x + 5$

h) $g(g(x)) = (x^2 - 3)^2 - 3$

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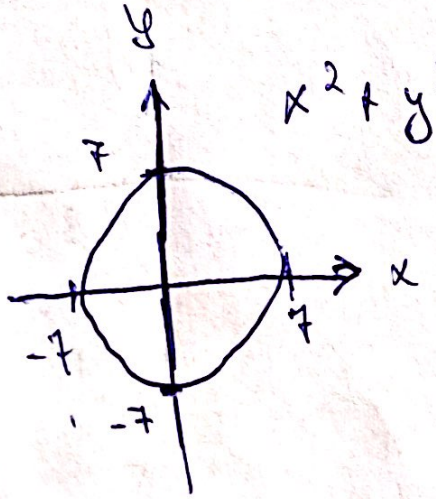
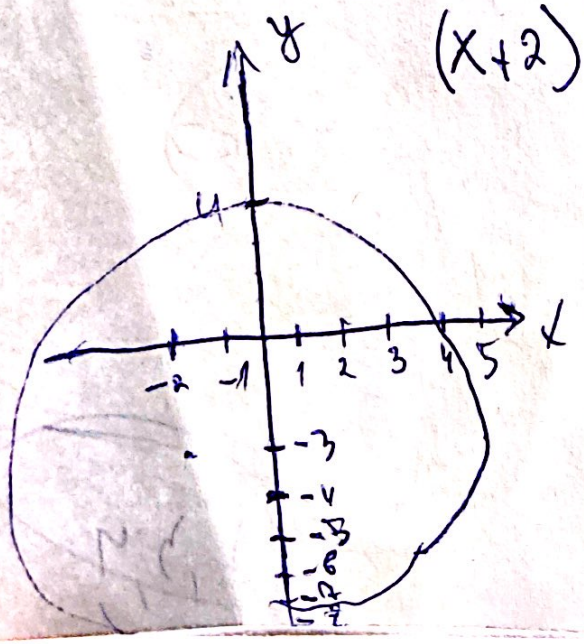
15) a) 1 b) 2 c) -2

d) 0 e) -1 f) 0

25)



$x^2 + y^2 = 49$



$(x+2)^2 + (y-3)^2 = 49$

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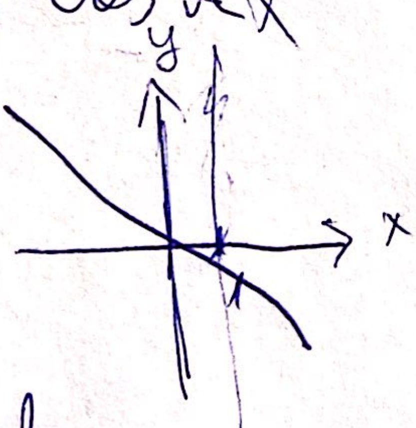
Niyazi Babayev

5)

θ	$-\pi$	$-2\pi/3$	0	$\pi/2$	$3\pi/4$
$\sin\theta$	0	$-\frac{\sqrt{3}}{2}$	0	1	$\frac{\sqrt{2}}{2}$
$\cos\theta$	-1	$-\frac{1}{2}$	1	0	$-\frac{\sqrt{2}}{2}$
$\tan\theta$	0	$\sqrt{3}$	0	UND	-1
$\cot\theta$	UND	$\frac{\sqrt{3}}{3}$	UND	0	-1
$\sec\theta$	-1	-2	1	UND	$-\sqrt{2}$
$\csc\theta$	UND	$-\frac{2\sqrt{3}}{3}$	UND	1	$\sqrt{2}$

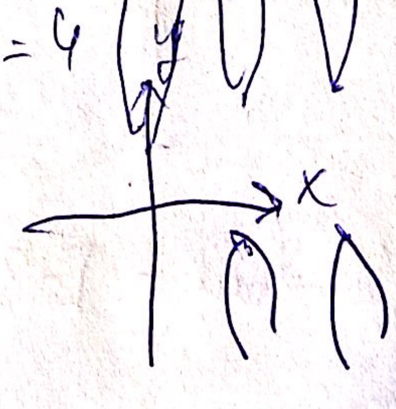
15) $y = \cos \pi x$



period = not periodic

25) $y = \sec \frac{\pi t}{2}$

period = 4



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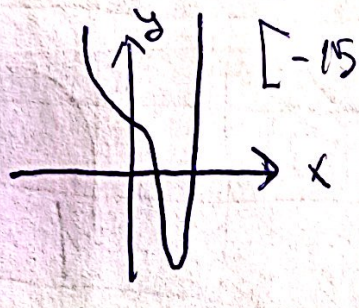
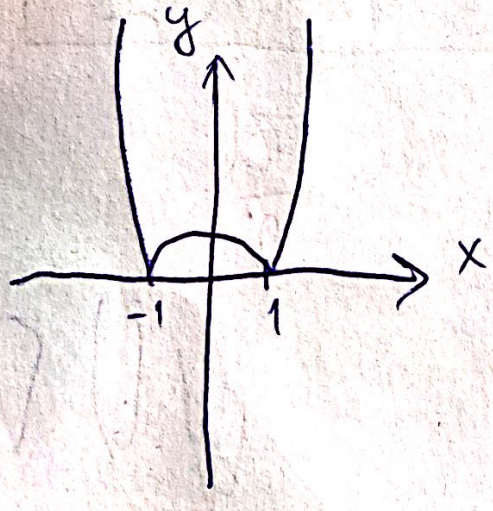
Nuyazi Babayev

5) $f(x) = x^4 - 4x^3 + 15$

Windows = $[-2; 4]$ by $[-15; 40]$

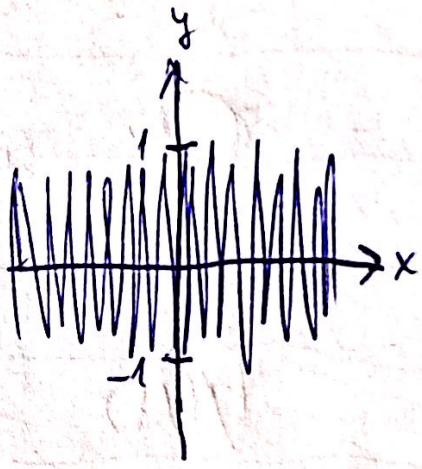


15) $y = |x^2 - 1|$



Window = $[-3; 3]$ by $[0; 10]$

25) $y = \sin 250x$



$[-0,02; 0,02]$ b

$[-1; 1]$

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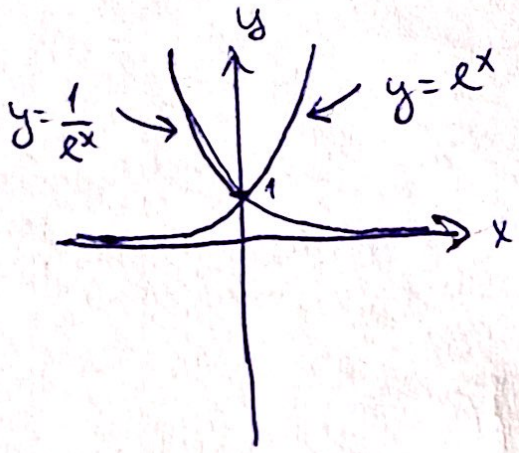
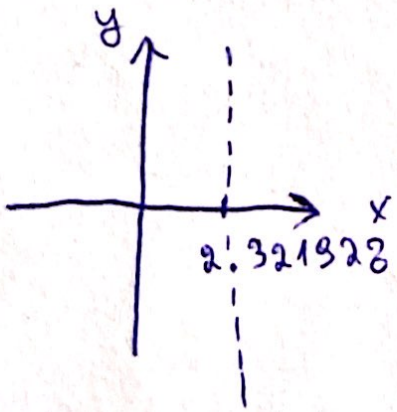
Nigar Babayeva

5) $y = e^x$ and $y = \frac{1}{e^x}$



15) $\left(25^{\frac{1}{8}}\right)^4 = 25^{\frac{1}{2}} = \sqrt{25} = 5$

25) $2^x = 5$



$x \approx 2.321928$

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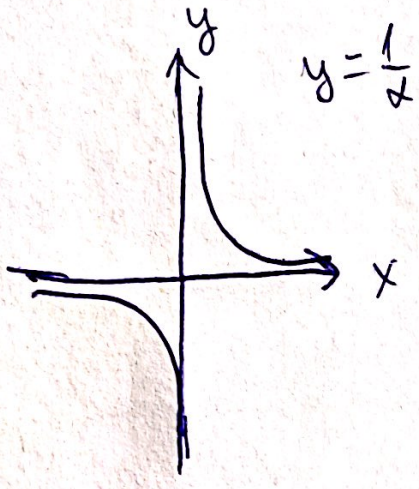
Niyazi Babacan

5)



Not one to one.
Horizontal line can not intersect the graph at 2 points.

25) $f(x) = x^5$

$x = \sqrt[5]{y}$

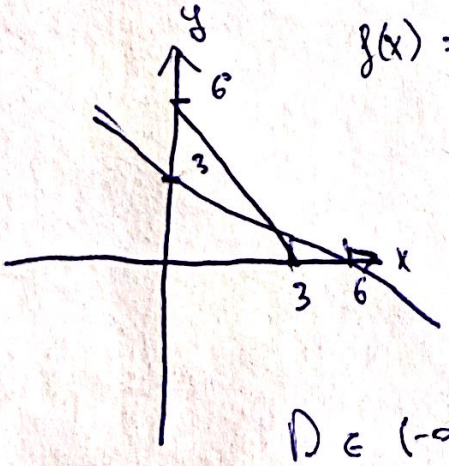
$y = \sqrt[5]{x}$

$f^{-1}(x) = \sqrt[5]{x}$

$D \in [0; \infty)$

$R \in [0; \infty)$

15)



$f(x) = 6 - 2x$

$0 \leq x \leq 3$

$D \in (-\infty; \infty)$

$R \in (-\infty; \infty)$

$f^{-1}(x) = \frac{6-x}{2}$

$2x = 6 - y$

$x = \frac{6-y}{2}$

$y = \frac{6-x}{2}$