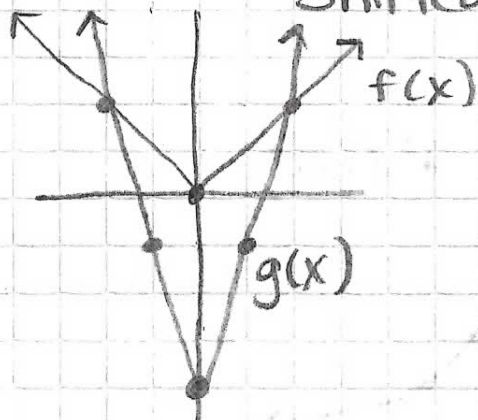


HW # 7 p. 52-53

24. $g(x) = 3|x| - 4$ $f(x) = |x|$

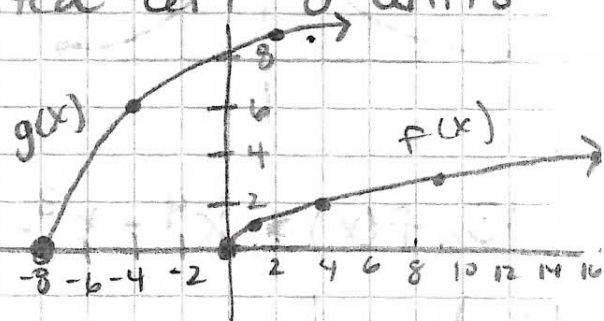
$g(x)$ is stretched vertically by 3 and shifted down 4 units.



25. $g(x) = 3\sqrt{x+8}$

$f(x) = \sqrt{x}$

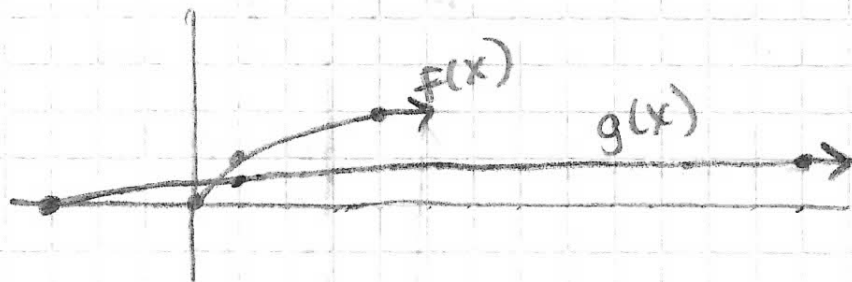
$g(x)$ is stretched vertically by a factor of 3 and shifted left 8 units.



31. $g(x) = \frac{\sqrt{x+3}}{4}$

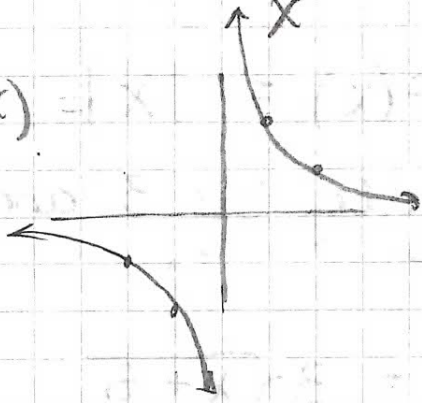
$f(x) = \sqrt{x}$

$g(x)$ is a vertical shrink factor of $\frac{1}{4}$ and shifted left 3 units.



$$41. f(x) = \frac{2}{x}$$

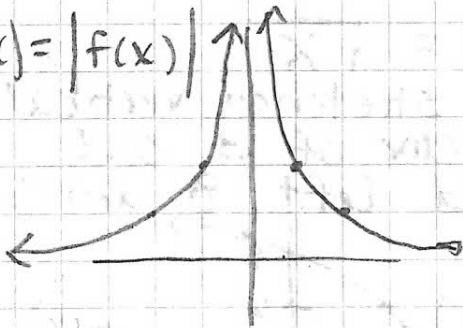
$f(x)$



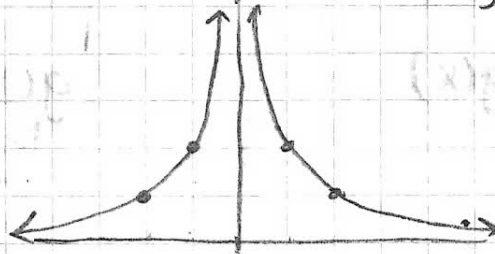
$$h(x) = f(|x|)$$

x	$ x $	$f(x)$
-2	2	1
-1	1	2
0	0	undefined
1	1	2
2	2	1

$$g(x) = |f(x)|$$

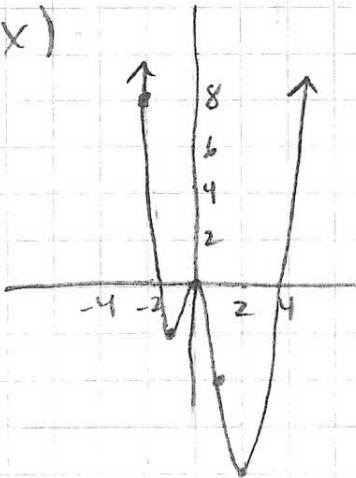


$$h(x) = f(|x|)$$



$$43. f(x) = x^4 - x^3 - 4x^2$$

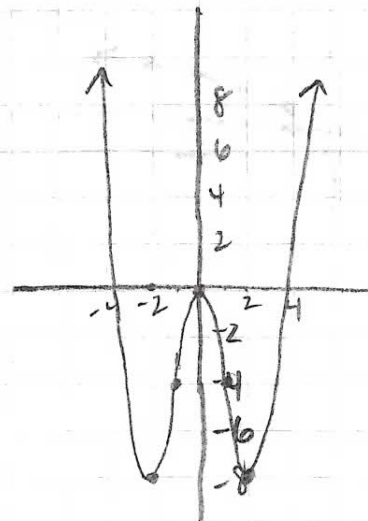
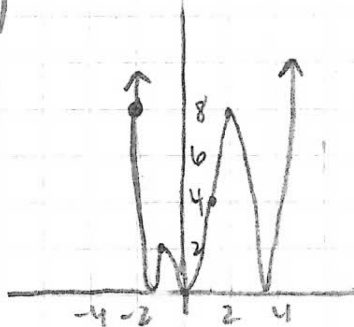
$f(x)$



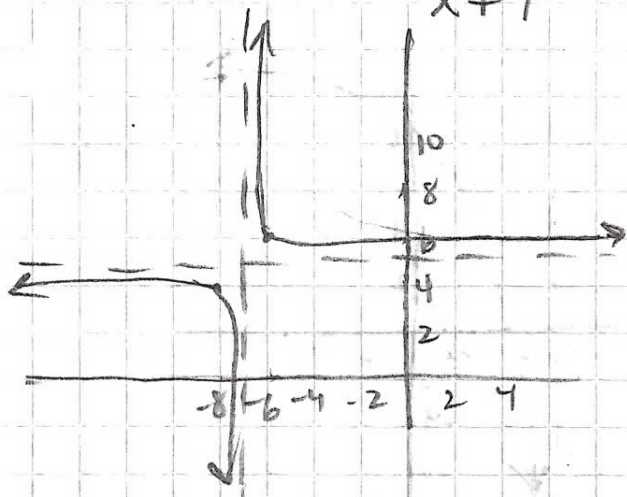
$$h(x) = |f(x)|$$

x	$ x $	$f(x)$
-2	2	-8
-1	1	-4
0	0	0
1	1	-4
2	2	-8

$$g(x) = |f(x)|$$



49. $g(x) = \frac{2}{x+7} + 5$



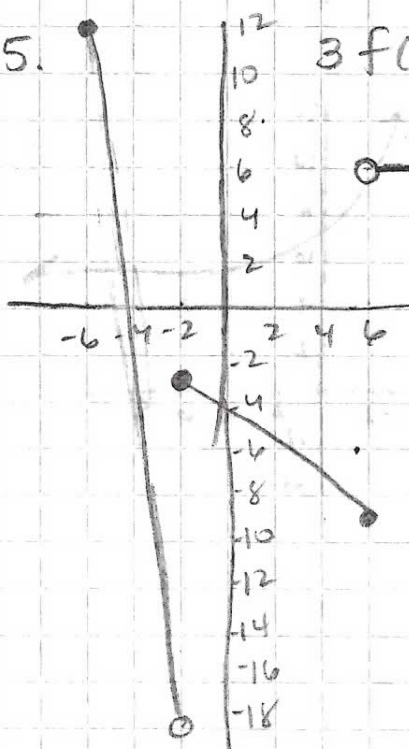
62. $f(x) = \frac{1}{x}$ #7

shifted down 6 units
stretched vertically by a factor of 4

$f(4) = \frac{4}{4} - 6$

$f(4) = -5 \checkmark$

65. $3f(x) - 6$

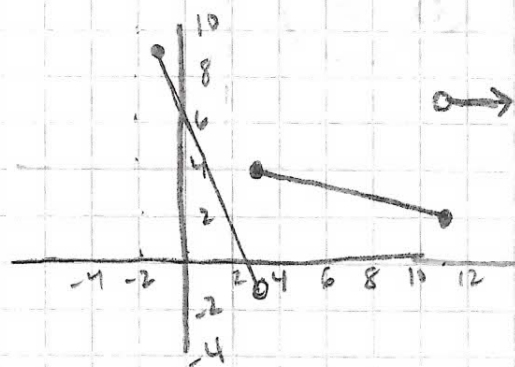


x	f(x)	g(x)
-6	6	12
-2	-4	-18
-2	1	-3
6	-1	-9
6	4	6

66. $g(x) = f(x-5) + 3$

right 5 up 3

x	f(x)	f(x-5)	g(x)
-6	6	-1	9
-2	-4	-3	-1
-2	1	3	4
6	-1	11	2
6	4	11	7



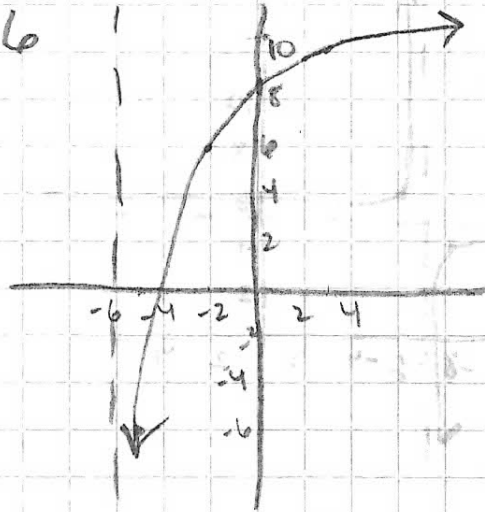
$$69. f(x) = \frac{8}{\sqrt{x+6}} - 4$$

$$g(x) = -3f(x) + 6$$

$$g(x) = -3 \left(\frac{8}{\sqrt{x+6}} - 4 \right) + 6$$

$$g(x) = \frac{-24}{\sqrt{x+6}} + 12 + 6$$

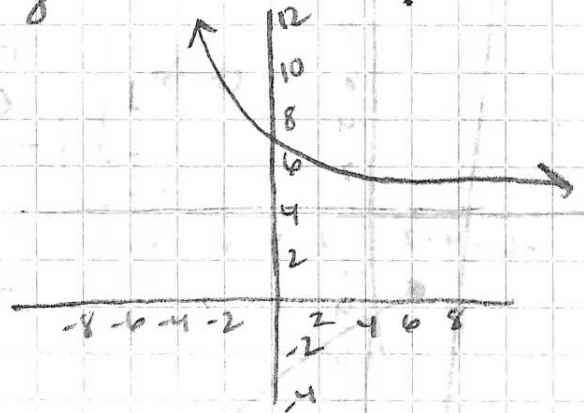
$$g(x) = \frac{-24}{\sqrt{x+6}} + 18$$



$$71. g(x) = f(2x+1) + 8$$

$$g(x) = \frac{8}{\sqrt{2x+1+6}} - 4 + 8$$

$$g(x) = \frac{8}{\sqrt{2x+7}} + 4$$



93. minimum (1, -2)

$$\begin{aligned} h(x) &= -3(-2) - 1 \\ &= 6 - 1 \\ &= 5 \end{aligned}$$

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