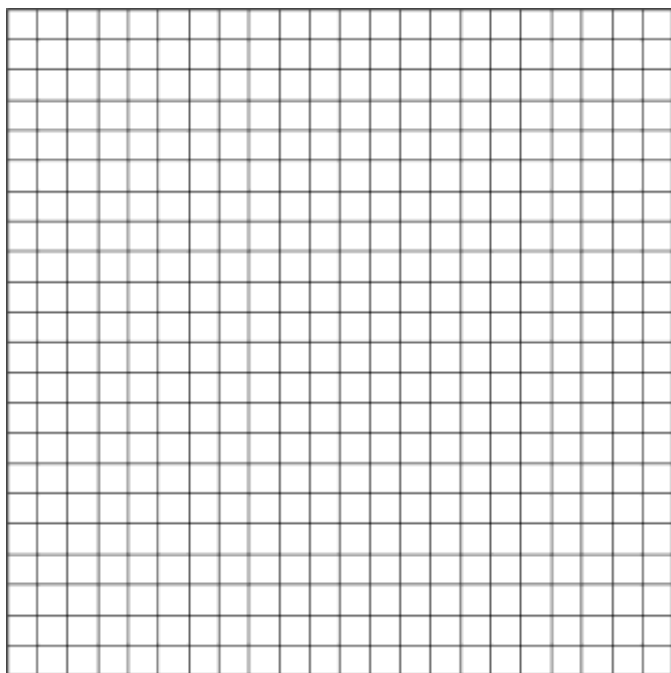


1. Graph the following function in the space provided:



$$f(x) = \begin{cases} -5, & x < -2 \\ -x^2 - 1, & -2 \leq x \leq 3 \\ -\frac{1}{3}x - 1, & 3 < x \end{cases}$$

2. Assume that $f(x) = 2x^2 - 8x + 8$ and $g(x) = x^3 - 3$

a) Determine $f^{-1}(x)$ and $g^{-1}(x)$

d) Determine $g(f(-3))$

b) Determine $f(g(x))$

e) Determine $f^{-1}(g^{-1}(24))$

c) Determine $f(g(2))$

f) Determine $g^{-1}(g^{-1}(122))$

3. Look at p. 47 in the book and find #19 and #20. Assume that #19 represents $f(x)$ and #20 represents $g(x)$. You're going to do the following by reading the graphs and finding values. For example, if I wanted to find $f(4)$, I would locate $x=4$ on the graph of #19 and see that it's the point $(4,2)$. Therefore the answer is $f(4) = 2$.

a) Determine $f(g(0))$

b) Determine $g(g(3))$

c) Determine $g(f(0))$

c) Determine $f(f(3))$

5. On p. 49, do #73-76 here. In addition, give the domain and range for each of the four graphs.

In the space below, graph the following functions:

a) $-\sqrt{x} + 2$

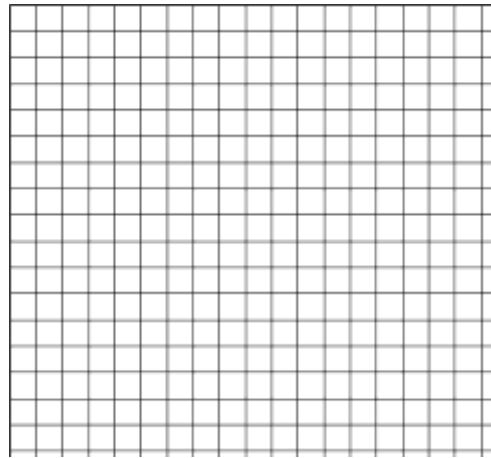
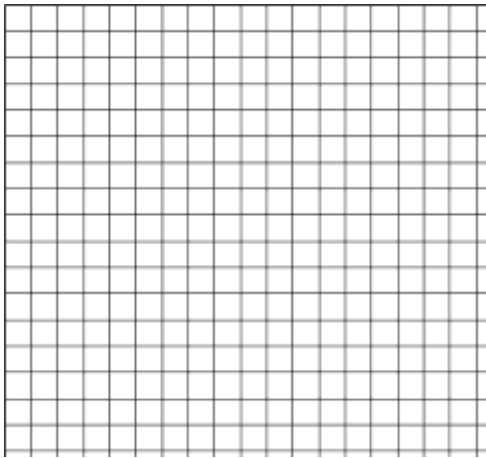
b) $2 + \sqrt{x}$

c) $2 - \sqrt{x-4}$

d) $14 + \sqrt{8+x}$

e) $6 - \sqrt{x-6}$

f) $12 + \sqrt{x-8}$



State the domain and range for each graph: