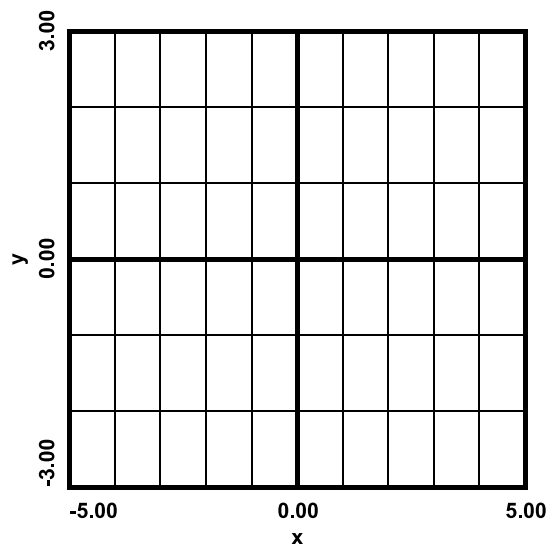


PRE-AP ALGEBRA 2

HOMEWORK #3C

Lesson 3C.1:

- 1) Let $y = f(x) = -\sqrt{-x}$.
- Construct a function $y = g(x)$ which is a translation, by $(4, 2)$, of $y = f(x)$.
 - Graph $y = g(x)$ on the axes below.
 - State the domain and range of $y = g(x)$.



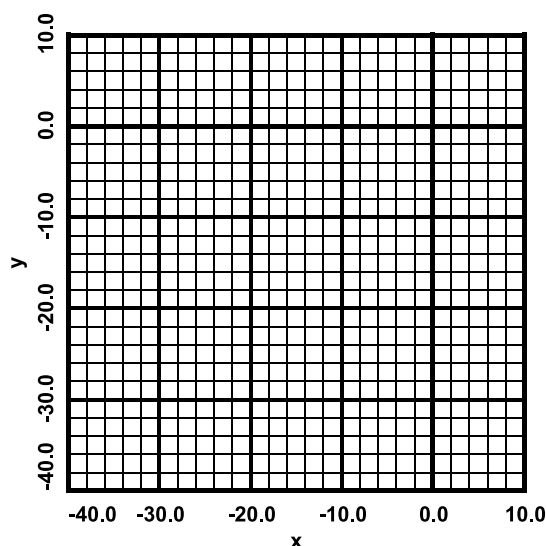
- 2) Find the domain and range of
 $y = f(x) = 17 - \sqrt{5x + 8}$.

Lesson 3C2:

- 3) Let $y = f(x) = -\sqrt{x}$.
- Construct a function $y = g(x)$ which is a vertical stretch, by a factor of 4, of $y = f(x)$.
 - Construct a function $y = h(x)$ which is a translation, by $(5, -8)$, of $y = g(x)$.
- 4) The transformation of $y = f(x)$ to $y = h(x)$ in problem 3 is equivalent to:
- Construct a function $y = k(x)$ which is a translation, by $(5, -2)$, of $y = f(x)$.
 - Obtain $y = h(x)$ from problem 3 by vertically stretching, by a factor of 4, $y = k(x)$.

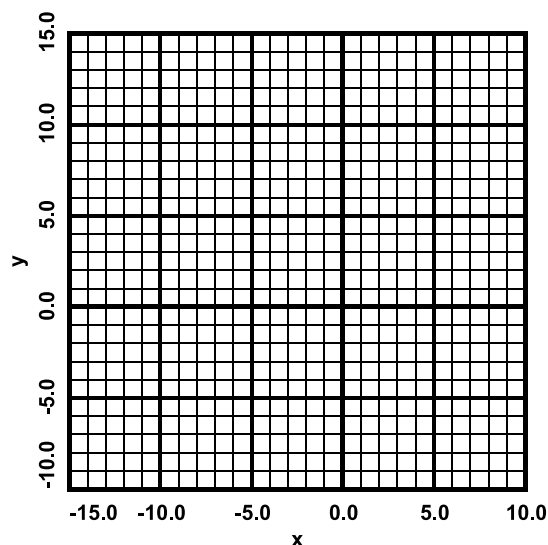
- 5) Let $y = f(x) = -14 - \sqrt{9 - 5x}$.

- Graph $y = x$ on the axes below.
- Calculate the domain and range of $y = f(x)$.
- Graph $y = f(x)$.
- Calculate $y = f^{-1}(x)$. Remember the domain restriction.
- Graph $y = f^{-1}(x)$.



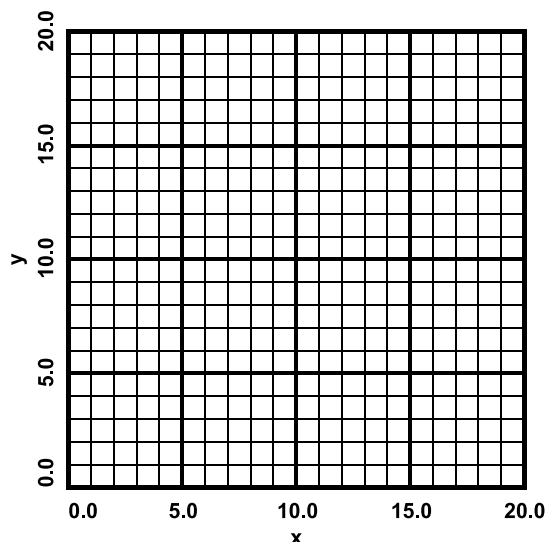
Lesson 3C.3:

- 6) Let $y = f(x) = -\sqrt[3]{x}$.
- Construct a function $y = g(x)$ which is a vertical stretch, by a factor of 4, of $y = f(x)$.
 - Graph $y = g(x)$ on the axes below.
 - Construct a function $y = h(x)$ which is a translation, by $(-4, 5)$, of $y = g(x)$.
 - Graph $y = h(x)$.



- 7) For $y = f(x) = 32 \cdot \sqrt[3]{x-8} + 16$, calculate $y = f^{-1}(x)$.

- 8) Solve $-2 \cdot \sqrt[3]{x-8} + 13 = \frac{1}{2}x + 1$ for x by graphing.



Lesson 3C.4:

- 9) Solve the indicated radical equations for x . Be sure to check your solutions in the original equation.
- $\sqrt{x+8} = 5$
 - $\sqrt{x+8} = 3x + 1$
 - $\sqrt{x+8} + \sqrt{x+10} = 10$

Lesson 3C.5:

- 10) Solve the indicated absolute value equations for x . Be sure to check your solutions in the original equation.
- $|x-3| = 8$
 - $|x-3| = x+1$
 - $|x-3| = -\frac{1}{2}x + 2$
 - $|x-3| = \frac{1}{2}x - \frac{5}{2}$