



Practice – 1

Once you feel confident with transformations, complete problems 1 to 3. Check your answers by going to the Solutions tab in Moodle.

Instructions: Answer each of the following practice questions on a separate piece of paper. Step by step solutions are provided under the Solutions tab. You will learn the material more thoroughly if you complete the questions before checking the answers.

1. The graph of the function $f(x) = \sqrt{x}$ is stretched vertically by a factor of $\frac{1}{3}$, translated down 2 units and left 4 units. State the equation and the domain of the transformed function, $g(x)$.
2. The following transformations are applied, in the order given, to $f(t) = t^2$. Determine the equation of the resulting function after each transformation, and sketch the graph of each.
 - i. Vertical stretch by a factor of 2
 - ii. Horizontal stretch by a factor of 3
 - iii. Reflection in the t -axis
 - iv. Horizontal translation 4 units right
 - v. Vertical translation 1 unit up
3. The graphs of $f(x)$ and $g(x)$ are shown below. Identify the transformations applied to $f(x)$ to obtain the graph of $g(x)$. Write the equation of the function $g(x)$.

