1. Apply the following transformations to $f\left(x\right)=x^{2}$ in the order given. Insert one transformation at a time: right 2, up 3, vertical stretch by 5, horizontal stretch by 6, x-axis reflection.
2. Apply the following transformations to $f\left(x\right)=|x|$ in the order given. Insert one transformation at a time: up 2, left 3, horizontal shrink by 1/5, vertical shrink by 1/2.
3. Describe how to transform the graph of f(x) into the graph of g(x):
4. $f\left(x\right)=x^{3}-2, g\left(x\right)=\left(x+1\right)^{3}-2$
5. $f\left(x\right)=x^{3}-2, g\left(x\right)=\left(0.5x\right)^{3}$
6. $f\left(x\right)=\sqrt{x+7}-1, g\left(x\right)=\sqrt{x-10}-3$
7. For each function, find the reflection across the x-axis, and the reflection across the y-axis.
8. $f\left(x\right)=\sqrt{x-3}$

x-axis reflection: y-axis reflection:

1. $f\left(x\right)=-2x^{3}+x^{2}+5x-1$

x-axis reflection: y-axis reflection:

1. $f\left(x\right)=\frac{7x^{3}+x^{2}-5x}{x^{3}+4x^{2}}$

x-axis reflection: y-axis reflection:

1. Describe the transformation from f(x) to g(x) in the correct order.
2. $f\left(x\right)=\sqrt{x}, g\left(x\right)=-4\sqrt{3x+2}-7$
3. $f\left(x\right)=x^{2}, g\left(x\right)=0.4(3-x)^{2}+7$
4. (a) Describe $f\left(x\right)=27x^{3}$ as a vertical stretch or shrink, and as a horizontal stretch or shrink.

(b) Describe $f\left(x\right)=\sqrt{\frac{1}{16}x}$ as a vertical stretch or shrink, and as a horizontal stretch or shrink.

Use the transformations to write the equation of this function:

(a) (b)

 