

Name: \_\_\_\_\_

1. How are the graphs of the functions obtained from the graph of  $f$ ?  
(c)  $y = f(x) + 1$ ,  
(d)  $y = f(x + 1)$ .
2. For which  $x$  is the function  $f(x) = -2x(4 - x)^{-1/2}$  not defined?
3. If  $f(x) = x^2$ , what is the function  $f \circ f$ ?
4. If  $f(x) = x^2 - 1$ , what is the function  $f \circ f$ ?
5. For  $f(x) = \sin x$ , find all  $y$  such that there exists some  $x$  with  $y = f(x)$ . (That is, find the range of  $f$ ). Express the answer as an interval.
6. Express 60 degrees in radians.
7. Express  $\pi/3$  radians in degrees.
8. What is  $\cos \pi/3$ ?
9. What is  $\sin \pi/3$ ?