

# H2

A

[Ex 1.5, p45]

In Exercise *below*, sketch and find ranges of  $f$ ,  $g$ ,  $f + g$ , and  $f \cdot g$ .

0.  $f(x) = x^2$ ,  $g(x) = x$

B

In Exercise *below*, find the domains and ranges of  $f$ ,  $g$ ,  $f/g$ , and  $g/f$ .

3.  $f(x) = 2$ ,  $g(x) = x^2 + 1$

C

Graph the functions in Exercises *below*.

29.  $y = \sqrt{x + 4}$

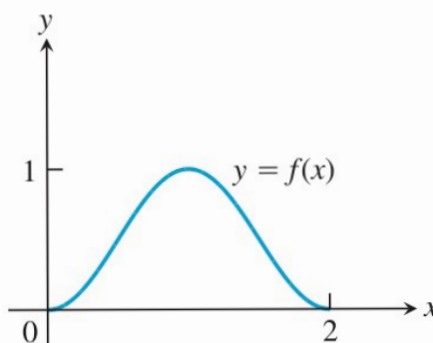
31.  $y = |x - 2|$

41.  $y = \frac{1}{x - 2}$

45.  $y = \frac{1}{(x - 1)^2}$

D

49. The accompanying figure shows the graph of a function  $f(x)$  with domain  $[0, 2]$  and range  $[0, 1]$ . Find the domains and ranges of the following functions, and sketch their graphs.



b.  $f(x) - 1$

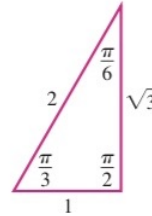
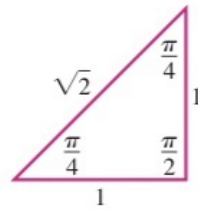
d.  $-f(x)$

f.  $f(x - 1)$

h.  $-f(x + 1) + 1$

E

Complete the following table, using the side lengths of the triangles below. Show your working.

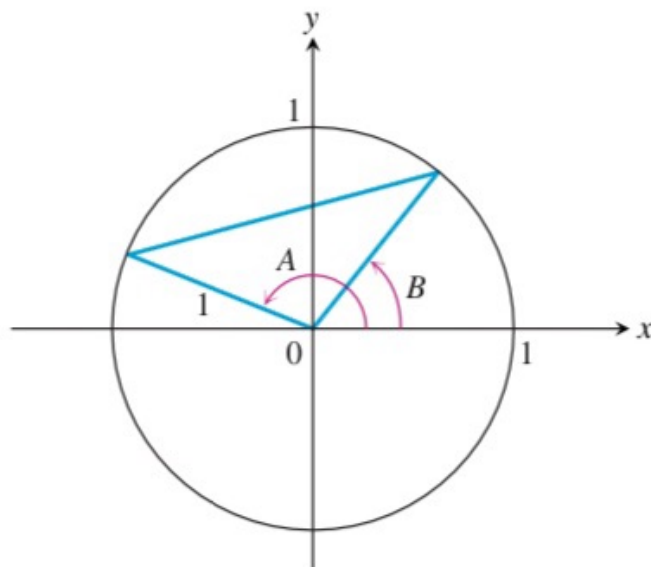


$\theta$	$-\pi/4$	$\pi/3$	$5\pi/6$	$7\pi/6$
$\sin \theta$				
$\cos \theta$				
$\tan \theta$				

F

[Ex 1.6, p56]

53. Apply the law of cosines to the triangle in the accompanying figure to derive the formula for  $\cos(A - B)$ .



54. a. Apply the formula for  $\cos(A - B)$  to the identity  $\sin \theta = \cos\left(\frac{\pi}{2} - \theta\right)$  to obtain the addition formula for  $\sin(A + B)$ .