

## 2.5 In-class Practice

1. Determine symmetries of the following functions or relations. State if they are even or odd wherever applies.

a)  $f(x) = x^4 - x^2$

b)  $f(x) = x^3 + x$

c)  $f(x) = x^2 + x$

d)  $f(x) = 3x^3 + 2x + 1$

e)  $f(x) = 1 - \sqrt[3]{x}$

f)  $f(x) = x + \frac{1}{x}$

g)  $x^2 + y^2 = 9$

h)  $x = y^2 - 1$

2. Determine symmetries and then graph the relations.

a)  $y = \frac{x}{|x|}$

b)  $|y| = |x|$

3. State the domain, range, symmetries, and then graph it.

$y = 1 - \sqrt{9 - x^2}$

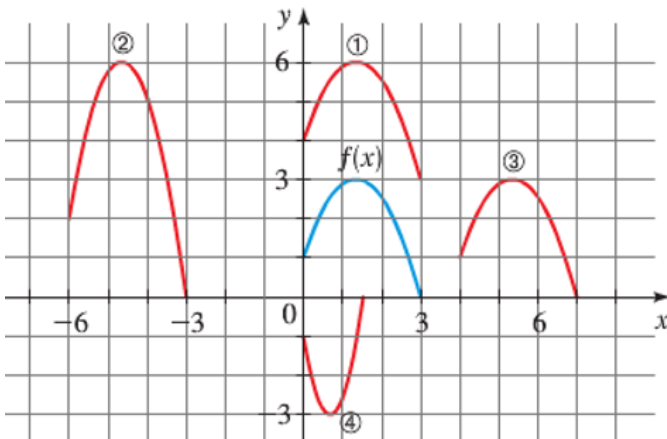
4. The graph of  $f(x)$  is given in blue. Match each equation with its graph.

a)  $y = f(x - 4)$

b)  $y = f(x) + 3$

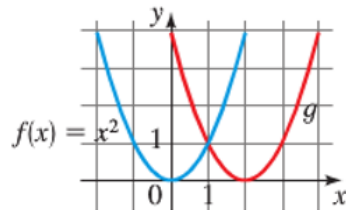
c)  $y = 2f(x + 6)$

d)  $y = -f(2x)$

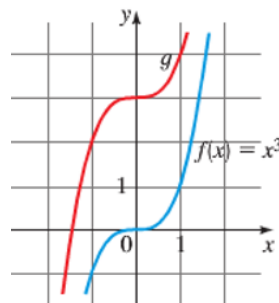


5. Find a formula for the function  $g$ .

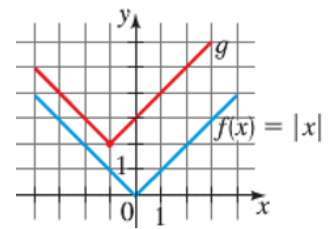
a)



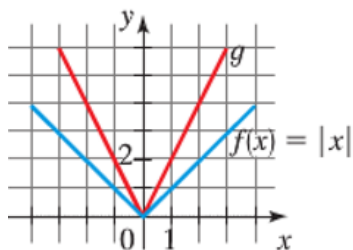
b)



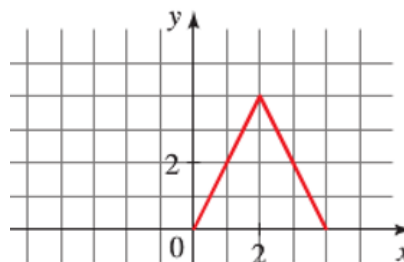
c)



d)



6. Sketch the graph of



a)  $y = f(x - 2)$

b)  $y = f(x) - 2$

c)  $y = 2f(x)$

d)  $y = -f(x) + 3$

e)  $y = f(-x)$

f)  $y = \frac{1}{2}f(x - 1)$

