

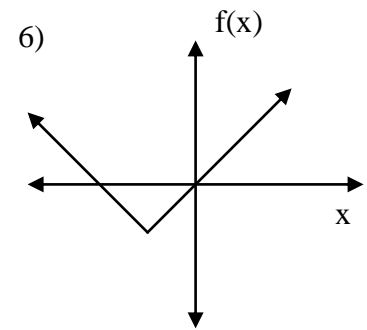
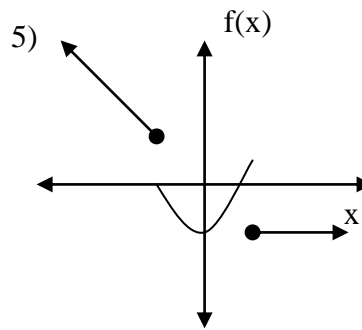
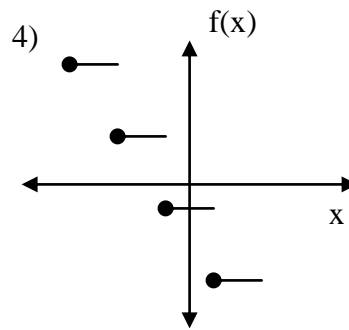
**EXERCISE A**

Identify each function as (S) for step, (C) for constant, (A) for absolute value, or (P) for piecewise using both their graphs and equations.

1)  $f(x) = -0.5$

2)  $g(x) = [x - 2]$

3)  $h(x) = |x + 5| + 1$



Graph each function. Identify the domain and range.

7)  $f(x) = [x] - 1$

8)  $f(x) = 3$

9)  $g(x) = |x - 2| - 4$

10)  $g(x) = 2|x| - 1$

11)  $f(x) = 3[x]$

12)  $h(x) = \begin{cases} 4 & \text{if } x > 1 \\ -4 & \text{if } x \leq 1 \end{cases}$

13)  $h(x) = \begin{cases} x + 2 & \text{if } x \leq 0 \\ 3x & \text{if } x > 0 \end{cases}$

**EXERCISE B**

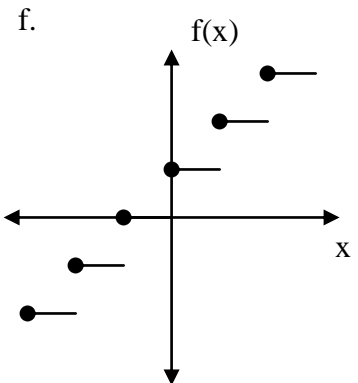
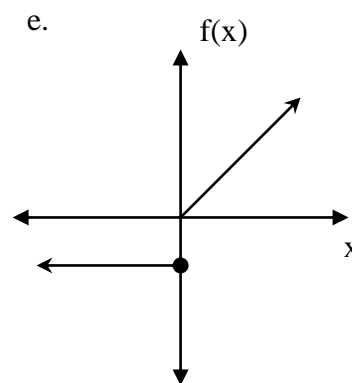
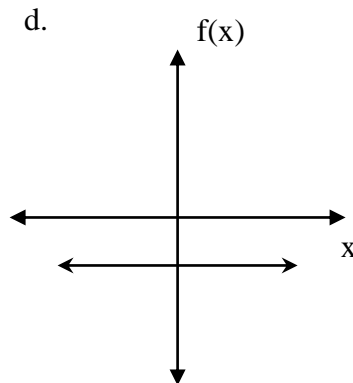
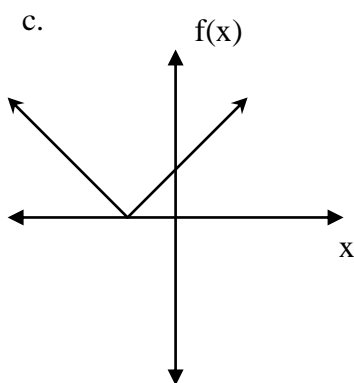
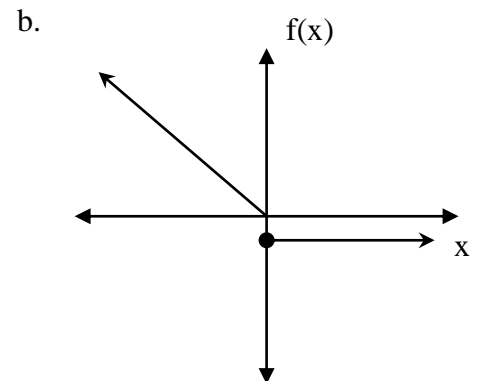
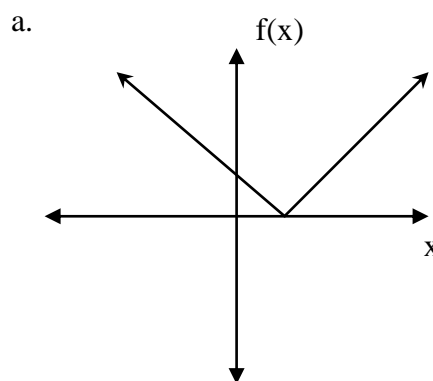
Match the graph to its equation. (you will not use all the graphs)

14)  $f(x) = [x] + 1$

15)  $f(x) = |x + 2|$

16)  $f(x) = -2$

17)  $f(x) = \begin{cases} -1 & \text{if } x \geq 0 \\ -x & \text{if } x < 0 \end{cases}$



Graph each function. Identify the domain and range.

18)  $f(x) = [x] - 2$

19)  $h(x) = -1.5$

20)  $g(x) = |x + 3| - 5$

21)  $h(x) = 4$

22)  $g(x) = 2|x - 3|$

23)  $f(x) = \begin{cases} -2 & \text{if } x > -3 \\ 2 & \text{if } x \leq -3 \end{cases}$

## EXERCISE C

Graph each function.

24)  $f(x) = -3[x]$

25)  $g(x) = -\frac{2}{3}|x| + 5$

26)  $h(x) = \begin{cases} x+3 & \text{if } x \leq -1 \\ 2x & \text{if } x > -1 \end{cases}$

- 27) According to the terms of Lidia's insurance plan, she must pay the first \$500 of her annual medical expenses. The insurance company pays 80% of the rest of her medical expenses. Write a piecewise function for how much the insurance company pays if  $x$  represents Lidia's annual medical expenses.



### ANSWERS:

1) C

7) range: all integers

17) b

23) range:  $y = -2, 2$

3) A

9) range:  $y \geq 4$

18-26) See Mr. Paull

25)  $y \leq 5$

5) P

11) range:  $3y,$

for graphs

27)  $\begin{cases} 0 & \text{if } x \leq 500 \\ 0.8(x - 500) & \text{if } x > 500 \end{cases}$

7-13) See Mr. Paull

range:  $y$  is an integer

18-26) domain: all reals

for graphs

13) range:  $y \geq 2$  or  $y < 0$

19) range:  $y = -1.5$

7-13) domain: all reals

15) c

21) range:  $y = 4$