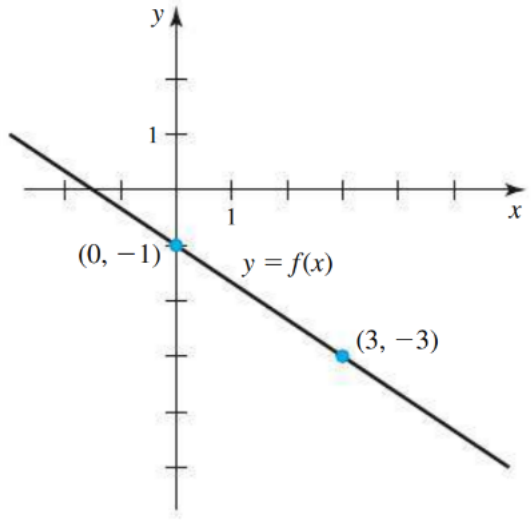
Calculus H – Unit 1 – Functions Review
Homework # 3: 1.2 Exercises p. 22-24 # 2, 3, 7, 41, 42.

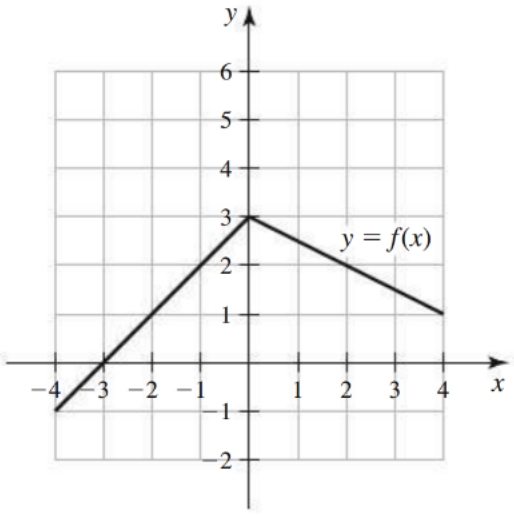
Work on separate paper, show all your work to support your answers.

2. What is the domain of a polynomial?

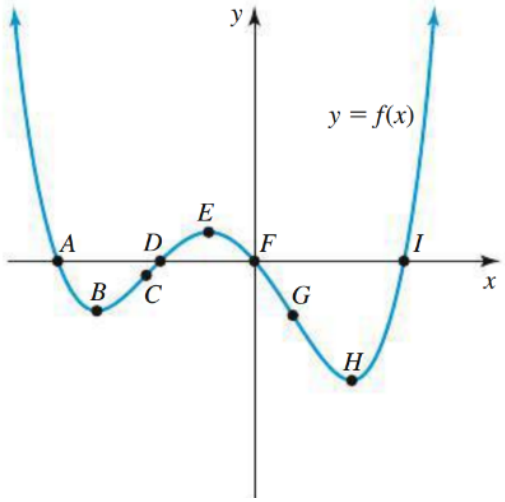
3. Determine the function f represented by the graph of the line $y = f(x)$ in the figure.



7. Write a definition of the piecewise linear function $y = f(x)$ that is given in the graph.

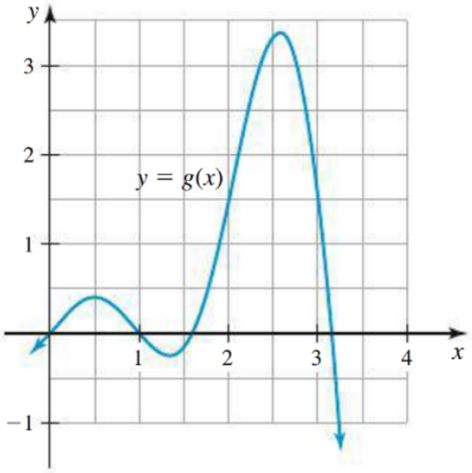


41. Features of a graph Consider the graph of the function f shown in the figure. Answer the following questions by referring to the points A–I.



a. Which points correspond to the roots (zeros) of f?
b. Which points on the graph correspond to high points of peaks (soon to be called *local maximum* values of f)?
c. Which points on the graph correspond to low points of valleys (soon to be called *local minimum* values of f)?
d. As you move along the curve in the positive x-direction, at which point is the graph rising most rapidly?
e. As you move along the curve in the positive x-direction, at which point is the graph falling most rapidly?

42. Features of a graph Consider the graph of the function g shown in the figure.



a. Give the approximate roots (zeros) of g.
b. Give the approximate coordinates of the high points or peaks (soon to be called *local maximum* values of g).
c. Give the approximate coordinates of the low points or valleys (soon to be called *local minimum* values of g).