

Worksheet 4.2 & 4.3

1. This table of values shows altitude A , expressed in meters, and temperature, T , expressed in degrees Celsius.

Altitude, A (m)	Temperature, T ($^{\circ}\text{C}$)
610	15.0
1220	11.1
1830	7.1
2440	3.1
3050	-0.8
3660	-4.8

a) Identify the independent and dependent variables.

b) Why is this relation also a function?

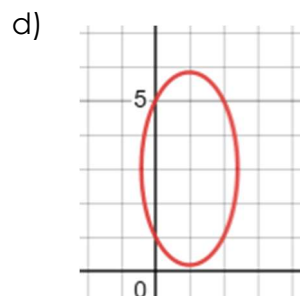
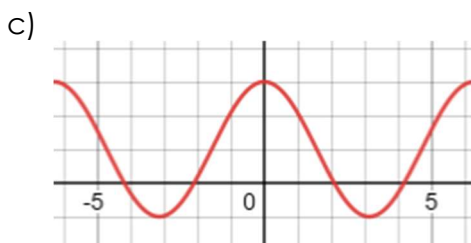
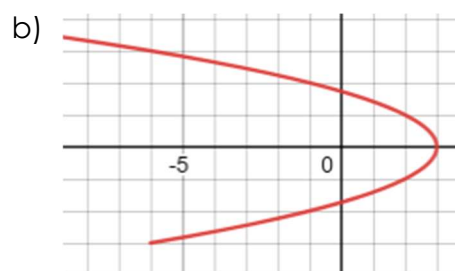
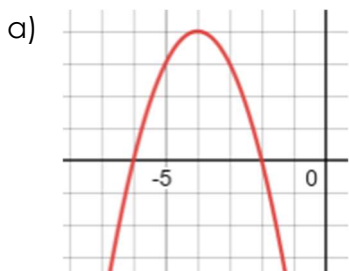
c) Find the domain and range.

2. Indicates which of the following relations are also functions.

a) $\{(1, 1), (2, 8), (3, 27), (4, 64)\}$

b) $\{(3, 4), (3, 5), (3, 6), (3, 7)\}$

3. Indicates which of the following relations are also functions.



4. Evaluate the following expressions using the functions below. Show your work.

$$f(x) = 3x - 2$$

$$h(x) = 3x^2 + 1$$

$$p(n) = n^2 - 5n + 7$$

a) $f(0)$

b) $h(2)$

c) $p(0)$

d) $f(-5)$

e) $h(-5)$

f) $p(-2)$

g) $f\left(\frac{2}{3}\right)$

h) $h(\sqrt{10})$

i) $p(m - 2)$

5. Given the function $f(n) = 5n - 3$. Determine the value of n when:

a) $f(n) = 27$

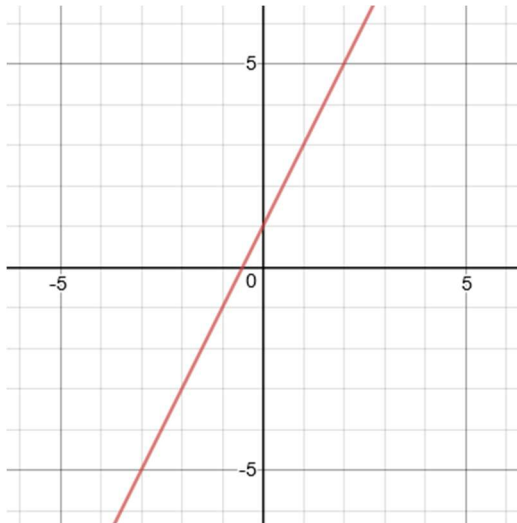
b) $f(n) = -13$

6. Given the function $g(x) = 13 - 7x$. Determine the value of x when:

a) $g(x) = -22$

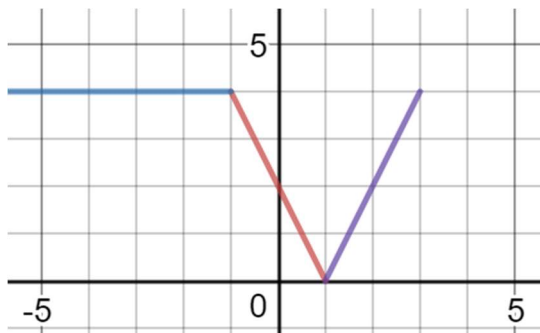
b) $g(x) = 48$

7. Given the graph of the function $f(x)$, determine :



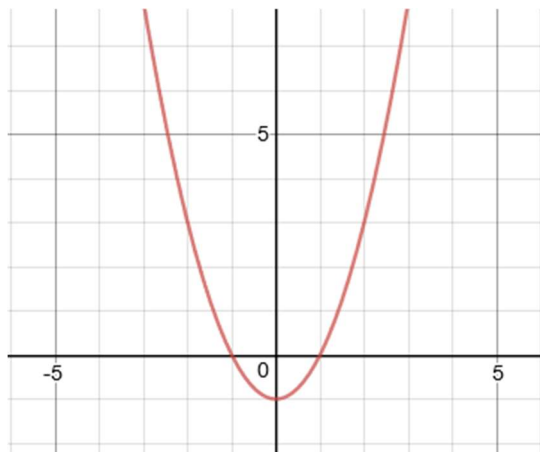
- a) $f(1) = \underline{\hspace{2cm}}$
- b) $f(-2) = \underline{\hspace{2cm}}$
- c) $f(2) = \underline{\hspace{2cm}}$
- d) $x = \underline{\hspace{2cm}}$ when $f(x) = 1$
- e) $x = \underline{\hspace{2cm}}$ when $f(x) = 3$

8. Given the graph of the function $h(x)$, determine :



- a) $h(2) = \underline{\hspace{2cm}}$
- b) $h(0) = \underline{\hspace{2cm}}$
- c) $h(-1) = \underline{\hspace{2cm}}$
- d) $h(-2) = \underline{\hspace{2cm}}$
- e) $x = \underline{\hspace{2cm}}$ when $h(x) = 0$
- f) $x = \underline{\hspace{2cm}}$ when $h(x) = 2$

9. Given the graph of the function $j(x)$, determine:



- a) $j(0) = \underline{\hspace{2cm}}$
- b) $j(1) = \underline{\hspace{2cm}}$
- c) $j(-2) = \underline{\hspace{2cm}}$
- d) $x = \underline{\hspace{2cm}}$ when $j(x) = 3$

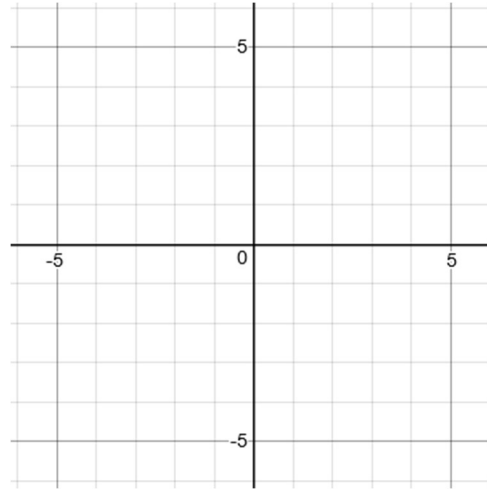
10. Expresses the following statements as ordered pairs, and then plot the points.

a) $f(3) = 5$ _____

b) $f(-2) = 3$ _____

c) $f(-1) = -3$ _____

d) $f(0) = -2$ _____



11. The function $C = 3.50 + 2.25d$ describes the cost, C dollars, for a taxi ride for distance, d kilometre, travelled.

a) Write the function in function notation.

b) Determine the value of $C(50)$. Clearly explain what these numbers represent.

c) The airport is 18.5 km from KSS. How much would it cost to take a taxi from the airport to KSS ?

d) How far can you travel by taxi if you have \$100 ?