Mathematics 101 Worksheet 2.5-2.7

Problems

1) Determine whether the relation defines y as a function of x. Find also the domain and the range.

a) (graph)  

b)(graph)

2) For the following, find the domain.

a) \{\left(\frac{1}{3}, 10\right), (6, -\frac{1}{2}), \left(\frac{1}{4}, 4\right), (7, \frac{2}{3})\}.

b) (graph)  

c) (graph)

d) \(g(x) = 7x^3 + 1.\)

e) \(\frac{x+10}{x-11}.\)

f) \(\sqrt{x + 2}.\)
3) For $f(x) = 6x^2 - 4$, evaluate $f(0)$, $f(-1)$, $f(y)$, $f(\pi)$, $f(-a)$.

4) Sketch the functions from memory. Determine also the domain and the range of each function.

a) $f(x) = x$

b) $f(x) = x^2$

c) $f(x) = x^3$

d) $f(x) = |x|$

e) $f(x) = \sqrt{x}$

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