1.2: Functions

Q: what is a fct: A relation between 2 sets s.t.
each element of the domain (input)
- corresponds to exactly one element
of the range (output).

Domain & Range.

Is it a fct:

f: city → prof. team

g: prof. team → city.

ex1: $C(x) = \dfrac{x^2-1}{x}$

a) $C(1)$; $C(0)$; $C(-2)$

b) Domain.

ex2: $f(x) = 3x^2 - 6x$ & $h \neq 0$

a) $f(3+2) \overset{?}{=} f(3) + 2$

b) $f(x+h)$

c) $f(x+h) \overset{?}{=} f(x) + h$
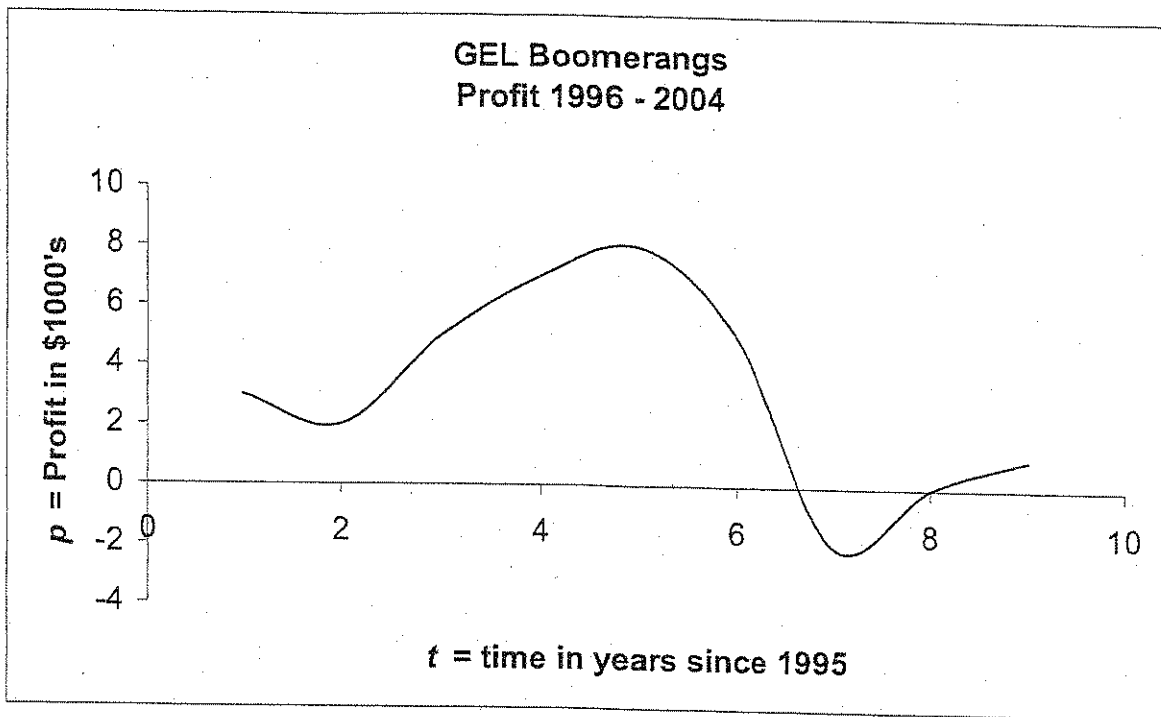
d) $f(x+h) \overset{?}{=} f(x) + f(h)$

e) $\dfrac{f(x+h) - f(x)}{h}$

ex3: Find the domain

a) $f(x) = \dfrac{x+2}{\sqrt{x-7}}$

b) $g(x) = -2 - \sqrt{9-x^2}$ ... by graphing.

FUNCTIONS & GRAPHS #2

GEL Boomerangs
Profit 1996 - 2004

p = Profit in $1000's

t = time in years since 1995

Instructions: Answer each question using a complete sentence.

1.) What does $t=3$ represent? _____

2.) What does $p=5$ represent? _____

3.) For what values of t do we have information? _____

4.) For what values of p do we have information? _____

For those values of t that have corresponding p values, we say that profit is a <u>function</u> of time. We write this using the notation $p(t)$.

5.) Find and interpret $p(2)$ _____
_____

6.) Find and interpret $p(7)$ _____
_____

7.) What is meant by the algebraic equation $p(t)=8$? _____
_____

8.) Solve and interpret $p(t)=5$ _____
_____

9.) Could there be more than one value of p for any given value of t? Explain your answer.
_____

10.) Explain the similarities and difference on the graph between $t=2$ and $t=7$. _____
_____