1.4 Linear and Quadratic Functions

Degree of a polynomial:

➡️ is the greatest sum of the exponents in any one term

ie: $5x^2 + 3x + 7$ degree 2

(HINT:decide on the degree when equation is in standard (expanded) form)

Linear Fn.	Quad Fn.
➡️ • Common first difference	• Common 2nd differnce
both depend on a constant increment of the independent variable (x)	
➡️ • The degree is 1	• The degree is 2
➡️ • Graphically is a straight line	• Graphically is a curve (parabola)

<u>Ex 1</u>
Determine if the function is linear, quadratic or neither.

a) $f(x) = -x^2 - 12x - 3$ b) $3x + y = 5$ c) $f(x) = 2x^3 - 5$

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

d) $f(x) = \dfrac{1}{x}$

Ex 2

Determine if the function is linear, quadratic or neither:

a)

x	y
0	5
1	2
2	-1
3	-4
4	-7

b)

x	y
0	1
1	2
2	4
3	8
4	16

c)

x	y
0	0
2	1
4	4
6	9
8	16

Ex3 : Write the equations in function notation, create a
table of values, then graph the following functions:
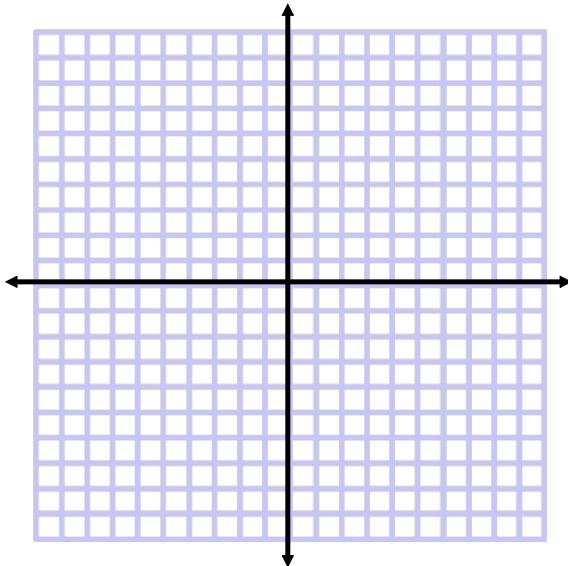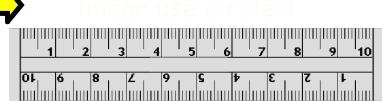
a) y= 2x - 4   b) h= 2t² - 4

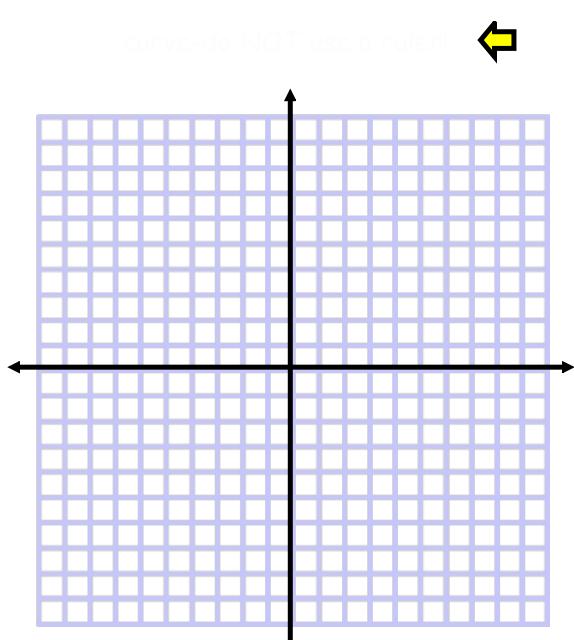➡ Function notation :

x	f(x)

t	h(t)

Notice degree
and type of fn.: ➡

➡

⬅

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p. 24
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7 - 9