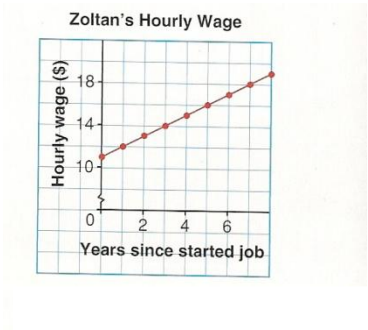
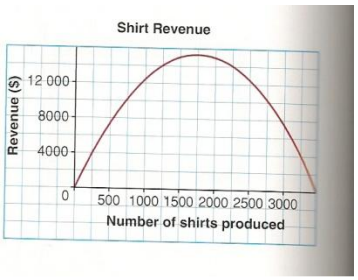
Chapter 5 and 6 Exam Review

GEOGRAPHICAL AND ALGEBRAIC MODELS

1. Name the type of graph (linear, quadratic or exponential)





2. Using the data below,
   a. Determine which graphical model you would use and state why.
   b. Determine the equation of the model you chose. (TI-84)

Hours	0	2	4	6	8	10	12
Distance	3	5	7.5	11.5	16.5	21	29

   c. Determine the next two numbers in the sequence above. What assumption are you making?

3. Which table of values models a quadratic relation? How do you know?

t	0	1	2	3	4
c	0.5	2	8	32	128

t	0	1	2	3	4
c	0.5	5.5	20.5	45.5	80.5

4. Determine the type of graph modelled by each equation.

   a. $y = x^2 - 2$
   b. $y = 4x - 5$
   c. $y = 3x^2 + 4x$
   d. $y = -4^x$
   e. $y = -x$
   f. $y = 2(x - 1)^2 - 3$

5. Match each equation with the graph.

a. $y = x + 3$

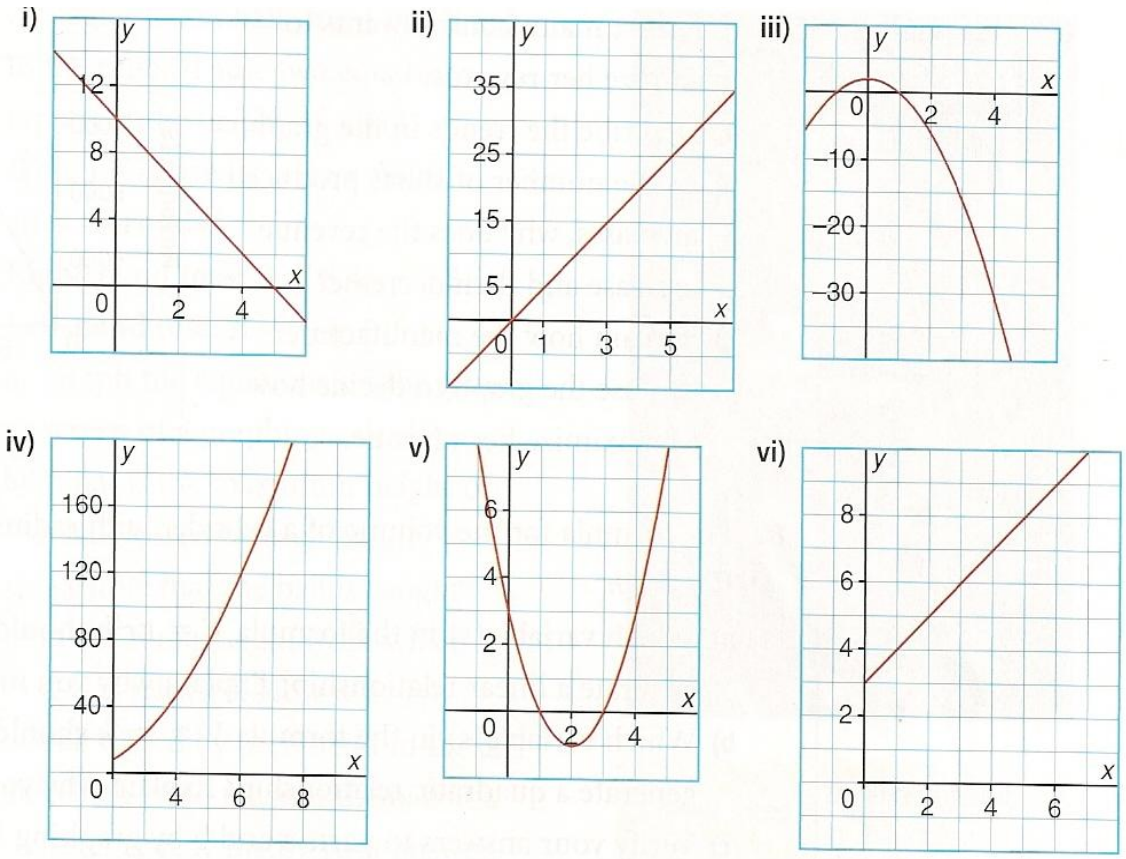
b. $y = x^2 - 4x + 3$

c. $y = 5x$

d. $y = -2x^2 + 2$

e. $y = -2x + 10$

f. $y = 4x^2 - 4x$



6. Simplify completely. (Leave all answers with positive exponents).

g. $a^3 \times a^2$

h. $\frac{x^5}{x^2}$

i. $(b^4)^2$

j. $\left(\frac{x^2}{y}\right)^0$

e. $\frac{x^5y^6}{x^3yz^2}$

f. $\frac{(x^2y^3z^4)^3}{x^4z^6}$

g. $(a^{-2})^3$

h. $\frac{b^{-2}}{(b^2)^{-1}}$

7. Evaluate completely. Leave all answers in lowest terms (fractions).

k. 5^2

l. 3^{-3}

m. $(2^{-2})^2$

n. $(-3)^3$

e. $\frac{2^2}{4^2}$

f. $3^2 \times -2^2$

g. $\frac{4^{-2}}{2}$

e. -4^2

8. Solve the Exponential equations. Show all your work for full marks.

o. $6^x = 6^3$

p. $2^4 = 2^{x+3}$

c. $4^x = 2^{3x-1}$

d. $27^{2x} = 3^{4x+2}$

9. Rearrange each equation to solve for the indicated value.

q. $y = 3x - 5$, for x

r. $V = \frac{b \times h}{2}$, for h

s. $y = 3x^2 - 2$, for x

t. $V = \frac{1}{3}b^2h$, for b

u. $V = \frac{4}{3}\pi r^3$, for r

v. $a^2 = b^2 + c^2 - 2bc\cos A$, for Cos A

10. Determine the volume of a sphere if the diameter is 10cm.