

Prerequisite Skills

Substitute into Equations

- Find the value of y when $x = 2$.
a) $y = 3x + 4$ b) $y = -2x^2 + 3x + 1$
- Find the value of y .
a) $y = -3x + 2$ when $x = 3$
b) $y = x^2 - 2x + 2$ when $x = 4$

Create Tables to Draw Graphs

- Complete the table for $y = x^2 + 3x - 1$.

x	y
-2	
-1	
0	
1	
2	

- Use Technology Refer to question 3.
a) Graph the relation on grid paper.
b) Use a graphing calculator to check your graph in part a).

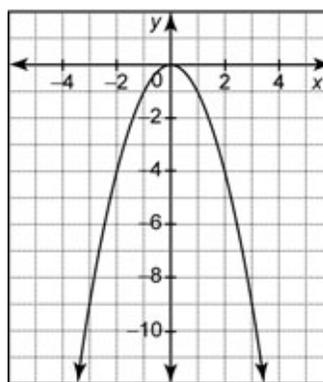
Calculate First and Second Differences

- Complete the table for $y = 2x^2 + 4x$.

x	y	First Differences	Second Differences
-3			
-2			
-1			
0			
1			
2			
3			

Transformations

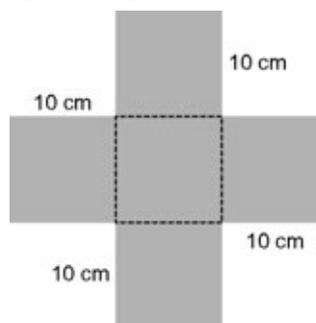
- Find the image of the point $(3, 4)$ after each transformation.
a) a translation of 3 units to the left
b) a translation of 6 units down
c) a reflection in the x -axis
- Copy the graph for $y = -x^2$ on grid paper. Draw the following on the same set of axes.



- the reflection of the graph in the x -axis
- the image of the graph after a translation of 3 units to the right and 4 units up

Calculate Area and Volume

- A piece of cardboard measures 30 cm by 30 cm. An open-topped box is to be constructed by removing a square with side length of 10 cm from each corner and folding up the edges.



- Find the surface area of the box.
- Find the volume of the box.