

**a**  - vertical stretch/compression

a "stretch" if ΙaΙ >1 a "compression" if 0< ΙaΙ <1

- reflection in x-axis if **a** is negative

multiply by **a**



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**k** - horizontal stretch/compression

a "compression" if ΙkΙ >1 a "stretch" if 0< ΙkΙ <1

- reflection in y-axis if negative

divide by k



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**d** - horizontal translation

**left** if it is x + a number **right** if it is x – a number

**(e.g (x+4) means move left 4)** **(e.g. (x-4) means move right 4)**

subtract d from add d to



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**c** - vertical translation

**up** if c is positive **down** if c is negative

add c to



**MCR3U – Handout 1.8**

**Example 1:** Describe what type of transformation is being applied to Sketch the transformed function.



**Example 2:** If (4,2) is on then what is the point that is located on the transformed function



**Example 3:** If (4,2) is on then what is the point that is located on the transformed function



**Example 4:** If (4,2) is on then what is the point that is located on the transformed function



**Example 5:** If (4,2) is on then what is the point that is located on the transformed function



**Example 6:** State the function that would result from vertically stretching y=f(x) by a factor of 4 and then translating the graph 3 units to the left and up 2.

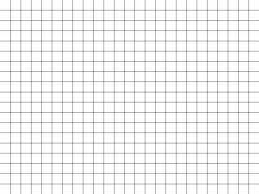
**Example 7:** Suppose , rewrite the equation in example 6.



**Example 8:** Use transformations to help you describe the characteristics of the transformed function



Then sketch the transformed function.



**Example 9:** Use transformations to help you describe the characteristics of the transformed function

. Then sketch the transformed function.

