 **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**

---------------------------------------------------------------------------------------------------------------------------------------

**k** - horizontal stretch/compression

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

 - reflection in y-axis if negative

divide by k

---------------------------------------------------------------------------------------------------------------------------------------

**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

---------------------------------------------------------------------------------------------------------------------------------------

**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.

