# Transformations in Graphs Worksheet

# Name: ­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. On a fresh document page
   1. Insert the function f(x) = x2 □
   2. On the same document insert the function f(x) = (x + 2)2 □
   3. Insert the grid lines for both axes □
   4. Change the colour of the function f(x) = x2 to blue □
   5. Explain the change that occurs to the graph when the function is changed from x2 to (x + 2)2

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* 1. Save the document as Question 1. □

1. Open a new document page
   1. Insert the function f(x) = (x + 2)2 □
   2. Then insert the function f(x) = 2(x + 2)2  □
   3. Insert the grid lines for both axes □
   4. Change the colour of the function f(x) = 2(x + 2)2 to green □
   5. Change the line of the function f(x) =2(x + 2)2 to a dotted line □
   6. Explain the change that occurs to the graph when the function is changed from (x + 2)2 to 2(x + 2)2.

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* 1. Save the document as Question 2. □

1. On a new document page
   1. Insert the function f(x) = 2(x + 2)2 □
   2. Then insert the function f(x) = 2(x + 2)2 + 3. □
   3. Insert the grid lines for both axes □
   4. Change the colour of the function f(x) = 2(x + 2)2 to purple □
   5. Change the line of the function f(x) =2(x + 2)2 to a dashed line □
   6. Explain the change that occurs to the graph when the function is changed from 2(x + 2)2 to 2(x + 2)2 + 3.

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* 1. Save the document as Question 3. □

1. What changes must be made to a function to cause the graph to
   1. Shift vertically

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* 1. Shift horizontally

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* 1. Stretch vertically

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* 1. Stretch horizontally

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