Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_HWK Transformations of Basic Functions 3 Hour\_\_\_\_\_\_

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| A graph of a function  Description automatically generated  This is   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | x | -2 | -1 | 0 | 1 | 2 | | f(x) | -8 | -1 | 0 | 1 | 8 | | Sketch a  and complete the table below.     |  | | --- | | State point of inflection | | State y intercept | | State x intercepts | | State two additional points | | State the transformations on f(x) that a(x) represents | | | Sketch b  and complete the table below.     |  | | --- | | State point of inflection | | State y intercept | | State x intercepts | | State two additional points | | State the transformations on f(x) that b(x) represents | |
| Sketch c  and complete the table to the right | |  | | --- | | State point of inflection | | State y intercept | | State x intercepts | | State two additional points | | State the transformations on f(x) that c(x) represents | | Answer these questions with a(x) b(x) or c(x) as they apply.  Which of the functions is a vertical compression?  Which of the functions is a vertical reflection?  Which of the functions is a vertical stretch? | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| A graph of a line graph  Description automatically generated  This is   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | x | -4 | -1 | 0 | 1 | 4 | | f(x) | und | und | 0 | 1 | 2 | | Sketch a  and complete the table below.     |  | | --- | | State extreme point | | State y intercept | | State x intercepts | | State two additional points | | State the transformations on f(x) that a(x) represents | | | Sketch b  and complete the table below.     |  | | --- | | State extreme point | | State y intercept | | State x intercepts | | State two additional points | | State the transformations on f(x) that b(x) represents | |
| Sketch c  and complete the table to the right | |  | | --- | | State extreme point | | State y intercept | | State x intercepts | | State two additional points | | State the transformations on f(x) that c(x) represents | | Answer these questions with a(x) b(x) or c(x) as they apply.  Which of the functions is a vertical compression?  Which of the functions is a vertical reflection?  Which of the functions is a vertical stretch?  Which of the functions is a horizontal reflection? | |