

1. Match the correct function equation (in the box) to each description and write the letter in the space provided.

[2]

- _____ i) $f(x)$ reflected in the y -axis
- _____ ii) $f(x)$ translated left 7
- _____ iii) $f(x)$ translated up 3 and right 7
- _____ iv) $f(x)$ translated left 3 and up 7

a. $y = f(x + 7)$	f. $y = -f(x)$
b. $y = f(x - 7)$	g. $y = f(x - 7) + 3$
c. $y = f(x - 7) - 3$	h. $y = f(-x)$
d. $y = f(x + 3) + 7$	i. $y = f(x) - 7$
e. $y = f(x - 3) + 7$	

Essential skill: Interpret function notation (#1, #2)

2. Describe the transformations applied to $y = \sqrt{x}$ to obtain $y = \sqrt{x+5} - 3$.

[2]

Essential skill: Identify transformations of functions algebraically

3. Complete the table.

[6]

Relation	Rough sketch (no numbers)	Function? Yes/No	Domain	Range
a) $y = \sqrt{x - 9}$				
b) $y = \frac{1}{x}$				
c) $y = -(x + 4)^2$				

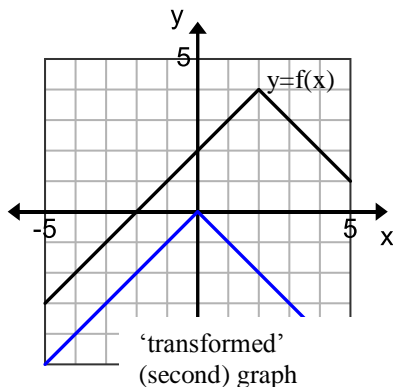
Essential skill:

Determine whether a relation is a function or not

State the Domain and Range of a Relation

4.

[4]



a) Describe the transformations on $y = f(x)$ necessary to obtain the second graph.

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b) Use function notation to describe how the second graph relates to $y = f(x)$.

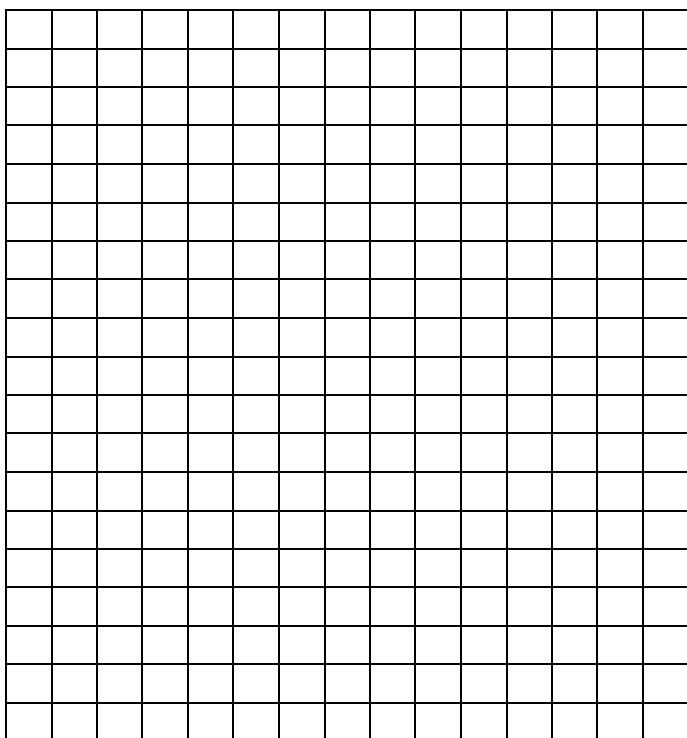
Essential skill: Identify transformations of functions graphically

5. Let $m(x) = \frac{1}{x}$

a) Determine the new image **equation** if $y = m(x - 4) - 5$.
 [2]

Essential skill: Apply function notation

[6] b) Sketch a graph of $m(x) = \frac{1}{x}$ and $y = m(x - 4) - 5$ on the same grid.
 Label each curve. (remember to label the axes and put on a scale)



c) State the domain and range of the original image, $m(x) = \frac{1}{x}$ and the transformed image $y = m(x - 4) - 5$.

Original Image $m(x) = \frac{1}{x}$

[2] D: { _____ }

R: { _____ }

Transformed Image
 $y = m(x - 4) - 5$

[2] D: { _____ }

R: { _____ }

Essential skill: Apply transformations of functions graphically