Review - Graphing the 6 Basic Functions with Transformations

Question #1
What would be the image equation for the graph y = |x| with the following transformations: [KU-3]

- shifted right 2
- reflection in the x-axis
- horizontal stretch by a factor of ½
- shifted up 8

$y = -|2(x-2)| + 8$

Question #2
Accurately graph the following function, and state the domain and range of the function: [APP-1]

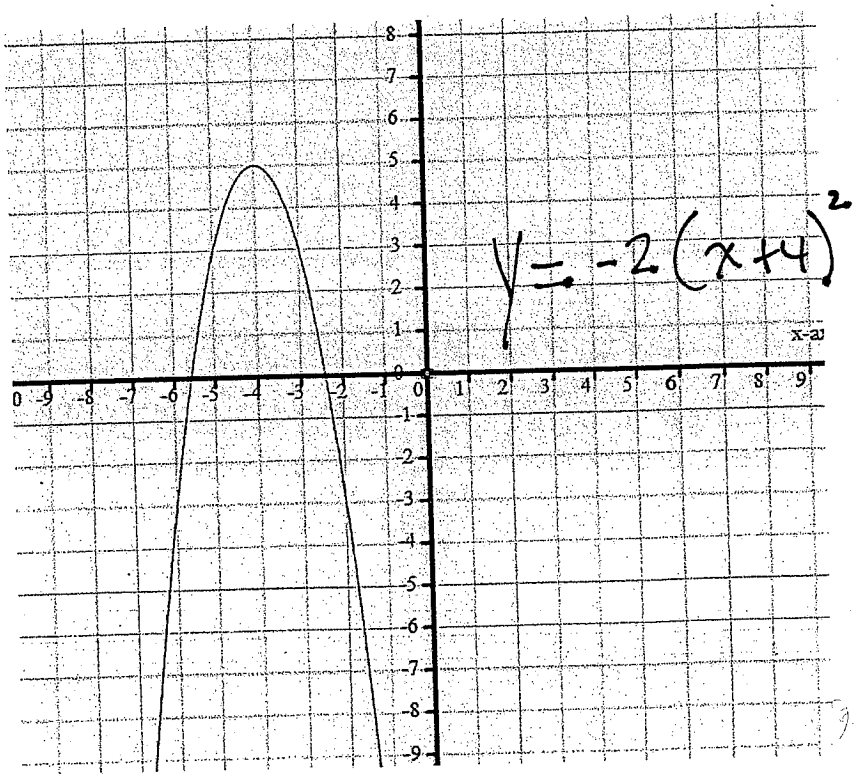
$$y = -\sqrt{\frac{1}{2}x + 3} - 4$$

$y = -\sqrt{\frac{1}{2}(x+6)} - 4$

$(x, y) \rightarrow (2x-6, -y-4)$

Question #3 [KU-2]

Determine the equation of this function:



$y = -2(x+4)^2 + 5$

Question #4
Accurately graph the following function, and state the domain and range of the function: [APP-1]

$$y = -\frac{1}{3-x} + 5$$

$y = -\frac{1}{-x+3} + 5$

$y = -\frac{1}{-(x-3)} + 5$ $y = \frac{1}{x-3} + 5$

Mapping
$(x, y) \rightarrow (x+3, y-5)$

Review – Graphing the 6 Basic Functions with Transformations

Question #1
What would be the image equation for the graph y = |x| with the following transformations: [KU-3]

- shifted left 3
- reflection in the y-axis
- vertical stretch by a factor of 4
- shifted down 1

$y = 4|-(x+3)| - 1$

Question #2
Accurately graph the following function, and state the domain and range of the function: [APP-7]

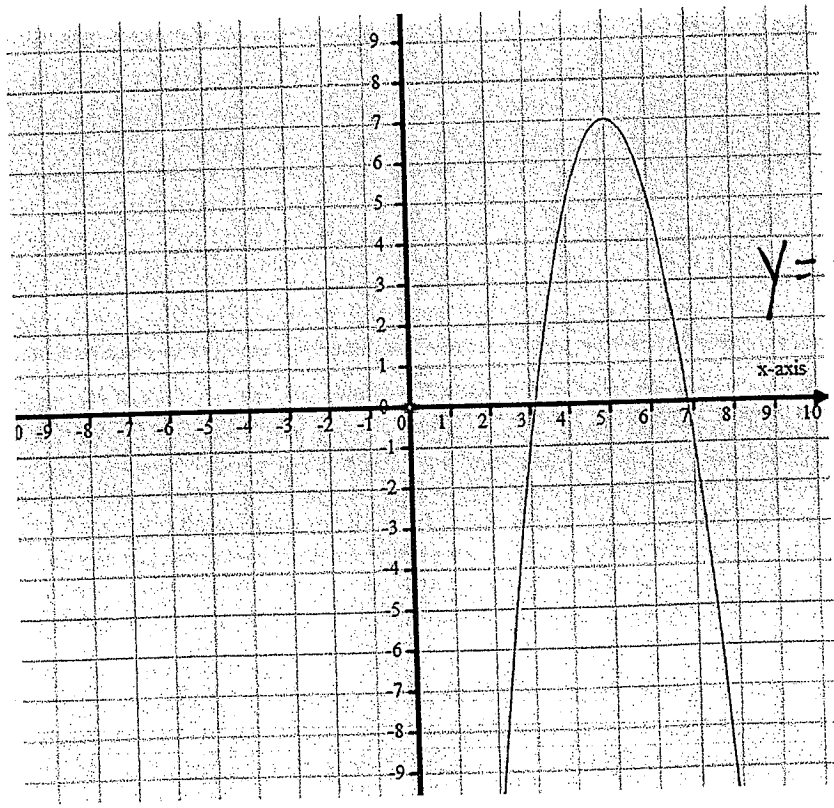
$$y = -\sqrt{2x-8} - 1$$

$y = -\sqrt{2(x-4)} - 1$

$(x, y) \rightarrow (\frac{1}{2}x + 4, -y - 1)$

Question #3

Determine the equation of this function: [KU-2]



$y = -2(x-5)^2 + 7$

Question #4
Accurately graph the following function, and state the domain and range of the function: [APP-8]

$$y = -\frac{1}{2-x} + 4$$

$y = -\frac{1}{-x+2} + 4$

Mapping $(x, y) \rightarrow (x+2, y+4)$

$y = -\frac{1}{-(x-2)} + 4$ $\quad y = \frac{1}{x-2} + 4$