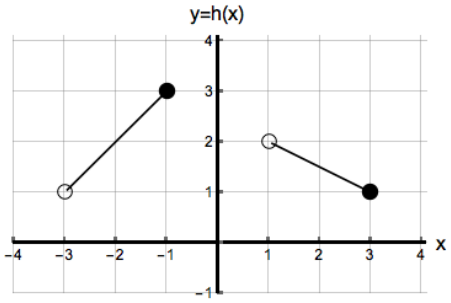
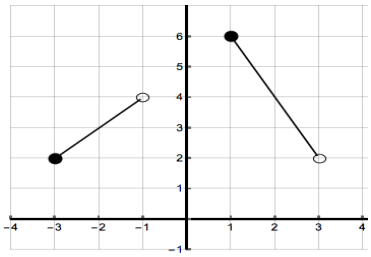
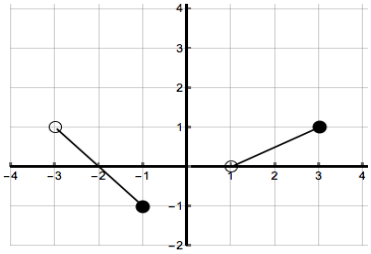
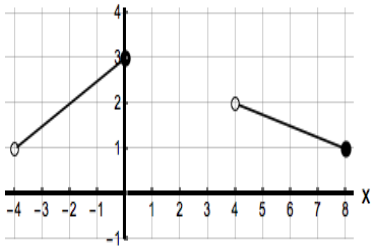
1. [15 points]

a. [9 points] The graph of the function $y = h(x)$ is shown below. The other graphs below it can be obtained by applying transformations to the graph of $y = h(x)$. Write the letter that corresponds to the correct function in the line below each graph. If the correct answer is not listed below, write the correct formula on the line provided below each graph.









Solution: G, J, D

A) $y = h(2x + 1)$ B) $y = -2h(x)$ C) $y = -h(x) - 2$ D) $y = h\left(\frac{1}{2}x - 1\right)$

E) $y = h(-2x)$ F) $y = h(2x - 1)$ G) $y = 2h(-x)$ H) $y = -2h(-x)$

I) $y = h\left(\frac{3}{2}x + 1\right)$ J) $y = 2 - h(x)$ K)$y = h\left(\frac{1}{2}x + 1\right)$ L) $y = h(x) - 2$

b. [6 points]

Solution: Compute the value of the following limits:

i) $\lim_{x \to -\infty} 3 + e^{-x^2} = 3$

ii) $\lim_{x \to 0^-} 4\ln(-x) = -\infty$

iii) $\lim_{x \to \frac{\pi}{2}^-} \tan(x) = \infty$