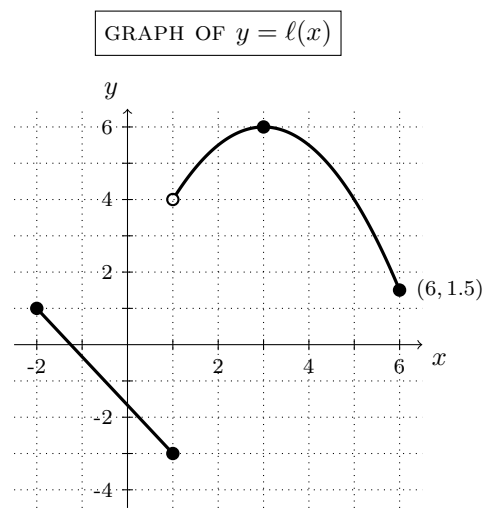
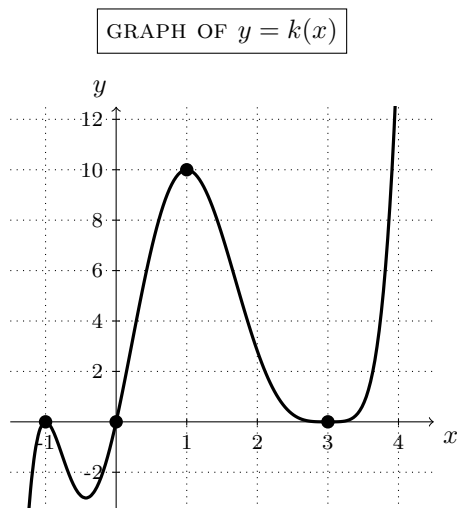


10. [11 points] Consider the graphs of $y = k(x)$ and $y = \ell(x)$ given below:



You must **show your work** in both parts of this problem to receive full credit. Write your final answers *in the spaces provided*.

- a. [5 points] Find a formula for $k(x)$, assuming $k(x)$ is a polynomial of degree seven with zeros at $x = -1$, $x = 0$ and $x = 3$.

$k(x) =$ _____

- b. [6 points] Find a piecewise-defined formula for $\ell(x)$ on $[-2, 6]$, given that the graph of $y = \ell(x)$ is made up of a line and a parabola.

$$\ell(x) = \begin{cases} \text{_____} & \text{if } \text{_____} \\ \text{_____} & \text{if } \text{_____} \end{cases}$$