Even and Odd Functions Handout

These handouts are for your practice only; I will not collect them.

1. Decide if the following functions are even, odd, or neither.

   (a) $h(t) = \dfrac{t^2 - 1}{t}$

   (b) $g(z) = z^2 \ln(z^2)$

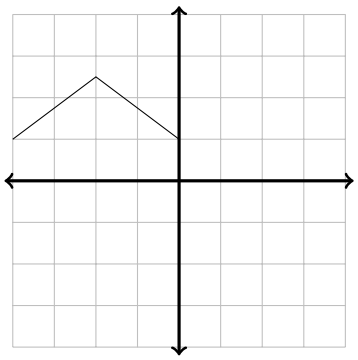
   (c) $\ell(s) = (s^3 - 4s)^2(3c^5 + 12c^9)^3$

   (d) $r(x) = \dfrac{-1000x^2}{1 - e^{-x^2}}$

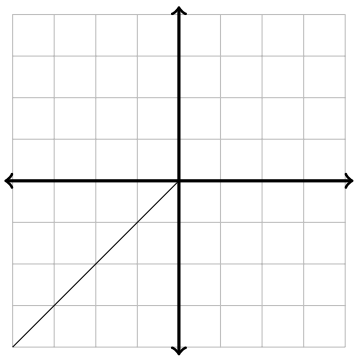
2. Show that the graph of any odd function $f(x)$ must pass through the origin $(0, 0)$. (Hint: plug in $x = 0$ into the definition of odd function.)

3. Given is a partial graph of f. Fill in the rest of the graph to ensure that f is even.

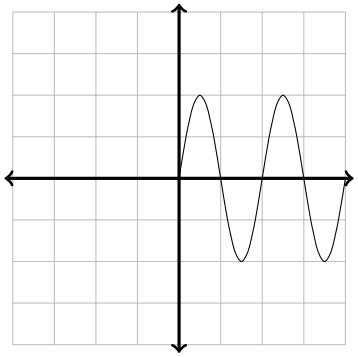
(a)



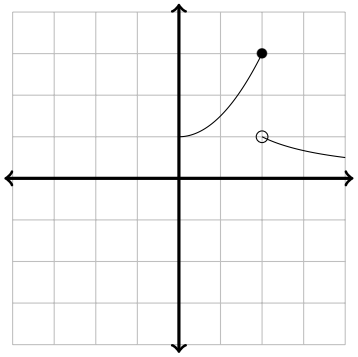
(c)



(b)



(d)



4. Which of the above functions can you draw into an odd function? Draw them in on the graphs with a different color (or use a dashed line instead of a solid one).

5. Are there any functions which are both even and odd?