Math 10270 : Quiz 4

1. (a) Give a rough sketch of the parabola whose focus is the point $(2, 0)$ and directrix the line $x = -1$.

(b) Which of the following points lie on the parabola?
(i) $(0, 0)$;   (ii) $(4, 2)$;   (iii) $(2, -3)$.

2. Find the intersection points (if any) between the parabola $y = x^2 + 2$ and the line through the origin with slope 3.