

**Homework #5- Hand in no later than 2:41 p.m., Wednesday, May 31**

Let  $X = Y = \text{reals}$ , and let  $f : X \rightarrow Y$  be defined by  $f(x) = x^2$ . Let  $Y$  have the usual topology and let  $X$  have the weak topology by  $f$ . Let  $A \subset X$  be

$$A = [-5, -4] \cup [4, 6].$$

Find the closure and the interior of  $A$  with respect to the weak topology by  $f$ .