## Math 341 Reading Questions for Friday, Week 1 $\,$

Let  $X=\left\{a,b,c,d\right\}$  with topology  $\tau=\left\{\emptyset,X,\left\{a,b\right\},\left\{a,b,d\right\},\left\{b\right\},\left\{b,d\right\},\left\{b,c,d\right\}\right\}.$ 

- (a) Is  $\{b\}$  closed?
- (b) Is X Hausdorff?
- (c) Is X connected?