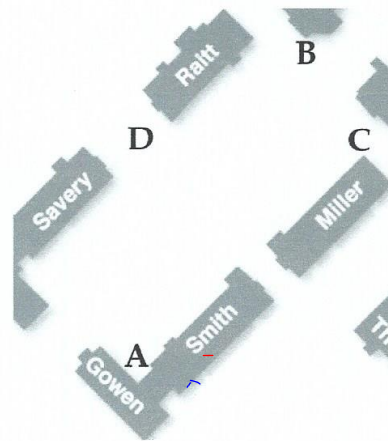


8. At noon, Alex exits Smith Hall at point  $A$  on the map shown and starts walking at constant speed directly towards the Art building (point  $B$ ), hoping for a cup of coffee at Parnassus. She gets to point  $B$  after 60 seconds.

At the same time (noon), Matt is at point  $C$  (near the Music building), walking straight towards point  $D$  at a uniform speed of 2 feet per second, rushing to his next class.

Point  $B$  is 60 feet east and 110 feet north of point  $A$ . Point  $D$  is 80 feet due north of point  $A$ , and point  $C$  is 70 feet due east of point  $D$ .

Impose a coordinate system with the origin at point  $A$ .



- (a) Determine parametric equations for Alex's coordinates  $t$  seconds past noon.

- (b) Determine parametric equations for Matt's coordinates  $t$  seconds past noon.

~~(c) What is the closest distance between Matt and Alex during their treks across the Quad?~~

~~SKIP (NEXT WEEK)~~

How close does Alex get to  $C$ ?