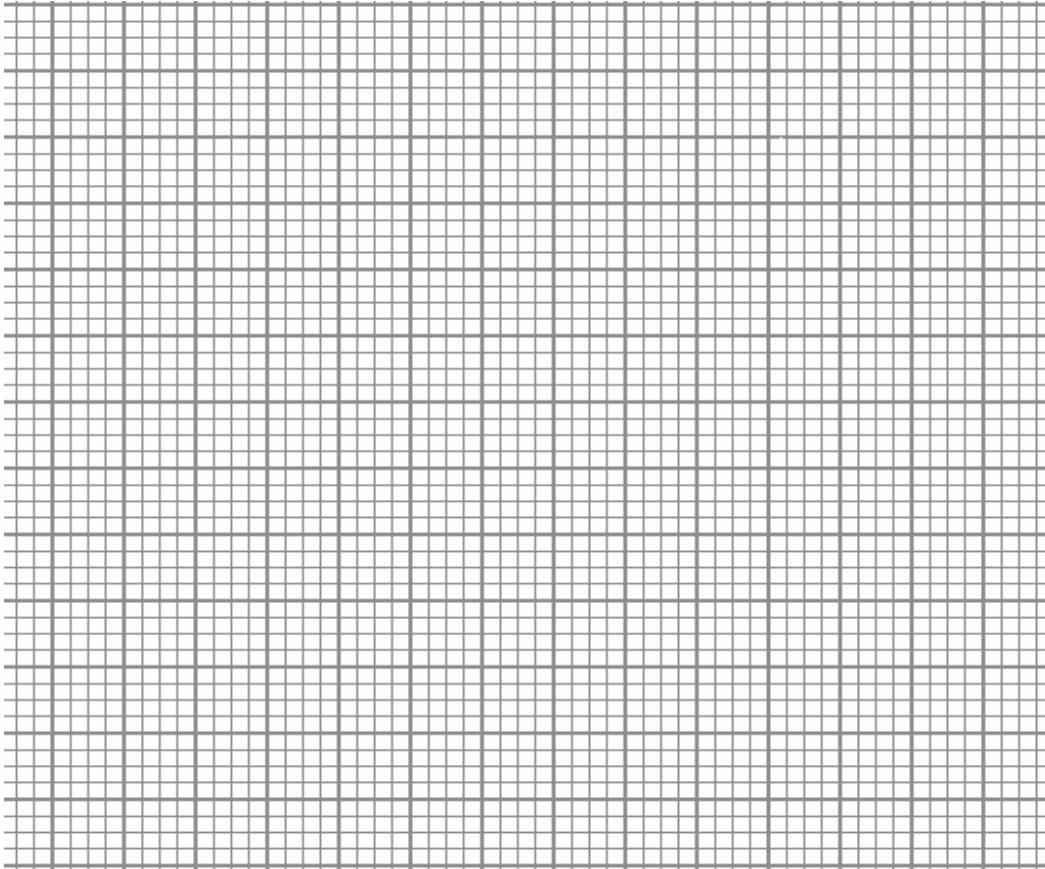
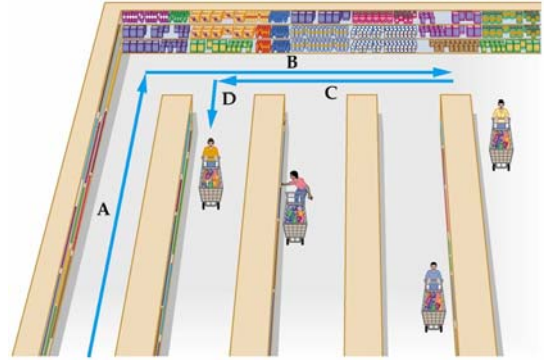


### Physics 151 Class Exercise: Vectors

1. A shopper at the supermarket follows the path indicated by vectors A, B, C, and D in the figure. Given that the vectors have magnitudes  $A = 51$  ft,  $B = 45$  ft,  $C = 35$  ft, and  $D = 13$  ft, find the total displacement of the shopper.
- a) Estimate using the graphical method



- b) Calculate an exact solution using the analytical component method of vector addition.

Vector	x-coord	y-coord
A		
B		
C		
D		
R		

2. A treasure map directs you to start at a palm tree and walk due north for 10.0 m. You are then to turn  $90^\circ$  and walk 15.0 m; then turn  $90^\circ$  again and walk 5.00 m. Give the distance from the palm tree, and the direction relative to north for each of the four possible locations of the treasure. (It is recommended that you draw a diagram illustrating the four solutions.)

Answer:	
---------	--

Answer:	
---------	--

Answer:	
---------	--

Answer:	
---------	--