You run from your house to a friend's house that is 3 miles away. You then walk home.

a. What distance did you travel? $\qquad$
b. What was the displacement for the entire trip? $\qquad$
Observe the diagram below. A person starts at $A$, walks along the bold path and finishes at $B$. Each square is 1 km along its edge. Use the diagram in answering the next two questions.
2 This person walks a distance of $\qquad$ km.

3 This person has a displacement of $\qquad$ .
a. 0 km
b. 3 km
c. $3 \mathrm{~km}, \mathrm{E}$
d. $3 \mathrm{~km}, \mathrm{~W}$
e. 5 km
f. $5 \mathrm{~km}, \mathrm{~N}$
g. $5 \mathrm{~km}, \mathrm{~S}$
h. 6 km
i. $6 \mathrm{~km}, \mathrm{E}$
j. $6 \mathrm{~km}, \mathrm{~W}$
k. 31 km
l. $31 \mathrm{~km}, \mathrm{E}$
m. $31 \mathrm{~km}, \mathrm{~W}$
n. None of these.


4 A cross-country skier moves from location A to location B to location C to location D. Each leg of the back-and-forth motion takes 1 minute to complete; the total time is 3 minutes. (The unit is meters.)

a. What is the distance traveled by the skier during the three minutes of recreation?
b. What is the net displacement of the skier during the three minutes of recreation?
c. What is the displacement during the second minute (from 1 min . to 2 min .)?
d. What is the displacement during the third minute (from 2 min. to 3 min.)?

