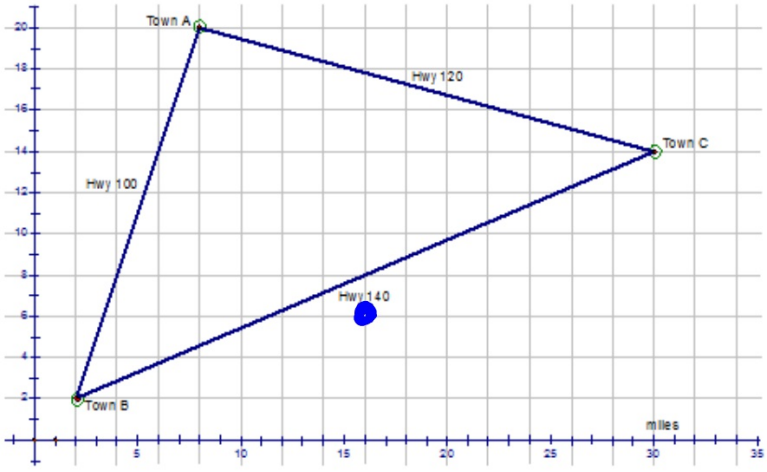
A county plans to build a regional airport to serve its citizens and wants to locate it within easy access of its three largest towns as shown on the map below. The county has two options for location of the new airport and is working with the airport construction company to minimize costs wherever possible. No matter where the airport is located, roads will have to be built for access directly to the towns or to the existing highways.

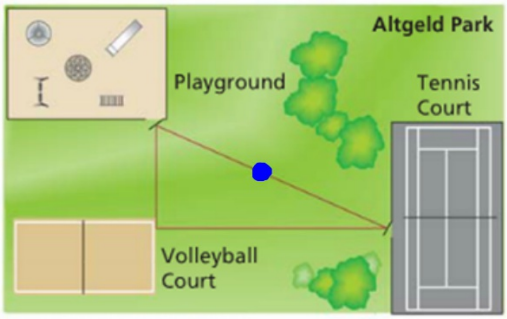


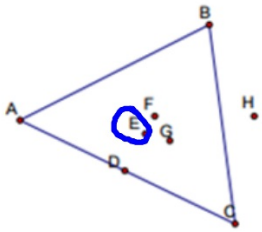
(16, 7)

Build the airport at a location that is equidistant from each of the three towns.

↳ Circumcenter

City Planning Copy the diagram of Altgeld Park. Show where park officials should place a drinking fountain so that it is equidistant from the tennis court, the playground, and the volleyball court.



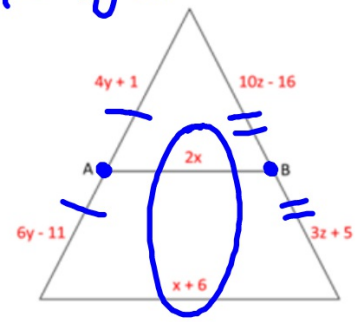


Three families, A, B and C who each reside at the vertices A, B, and C, are planning to meet for a picnic. D, E, F, G, and H represent the towns the families can choose to meet for their picnic. They agree that all families should drive the same distance. In which town should they meet? Justify your solution.

3) Solve for x, y, and z if AB is the midsegment of triangle.

A and B are midpoints.

$6y-11=4y+1$

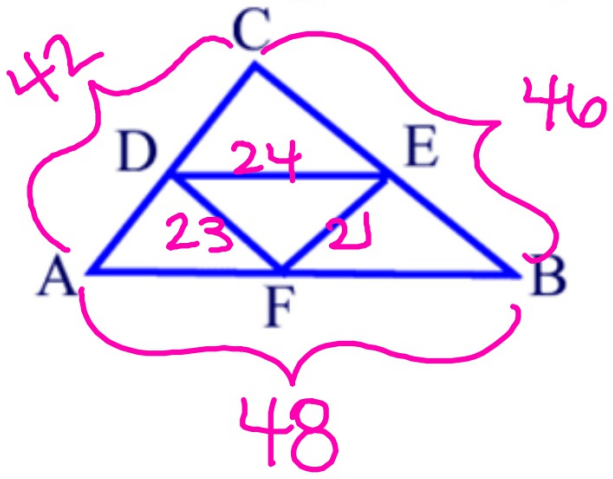


$3z+5=10z-16$

$x+6=2(2x)$

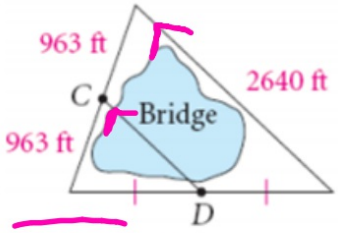
4)

Given $AC = 42$, $CB = 46$, $AB = 48$.
D, E, F are midpoints.
Find the perimeter of triangle DEF.



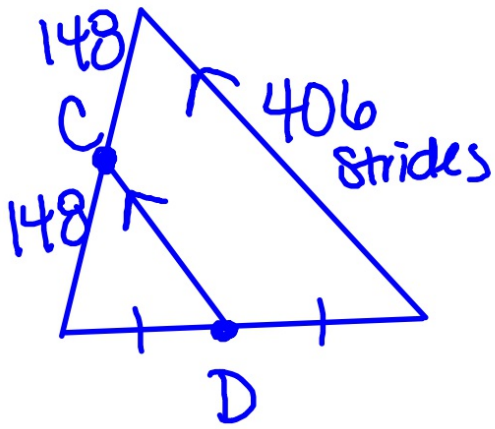
$24+23+21=68$

5) Fatima wants to paddle her boat across the bride. To determine how far she must paddle, she paces out the triangle, counting the number of strides. If Fatima strides an average of 6.5 feet, what distance must she paddle across the bridge?



$\frac{2640 ft}{2} = 1,320 ft$

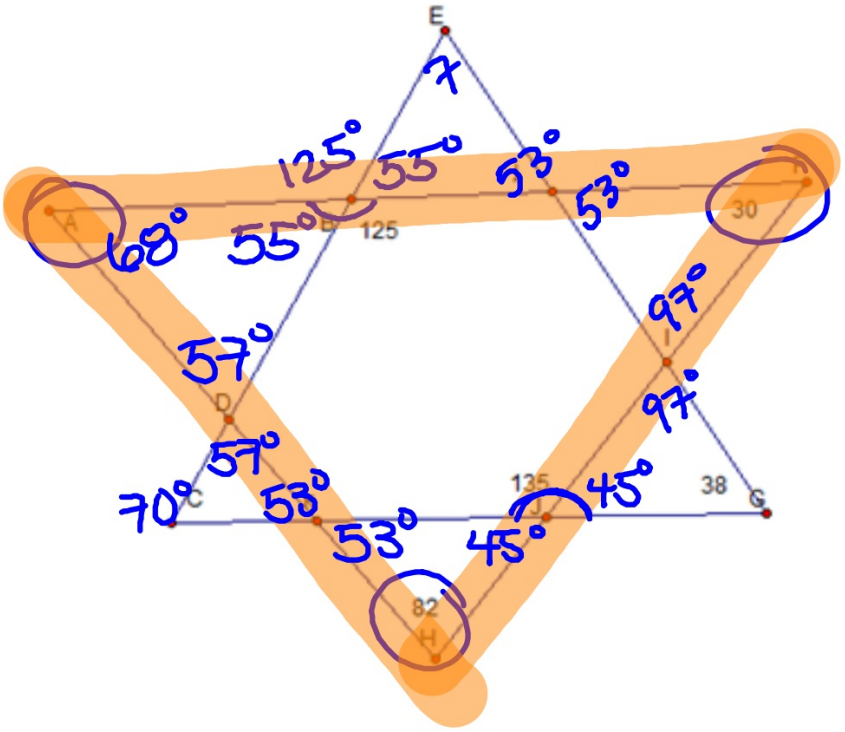
$\overline{CD}$ is a midsegment



$\frac{406 \text{ strides}}{2} = 203 \text{ strides}$

$203 \text{ strides} \times 6.5 \frac{ft}{\text{stride}}$

$1319.5 ft$



△ sum = 180

Linear pair
sum = 180

Vertical
Angles are ≅