

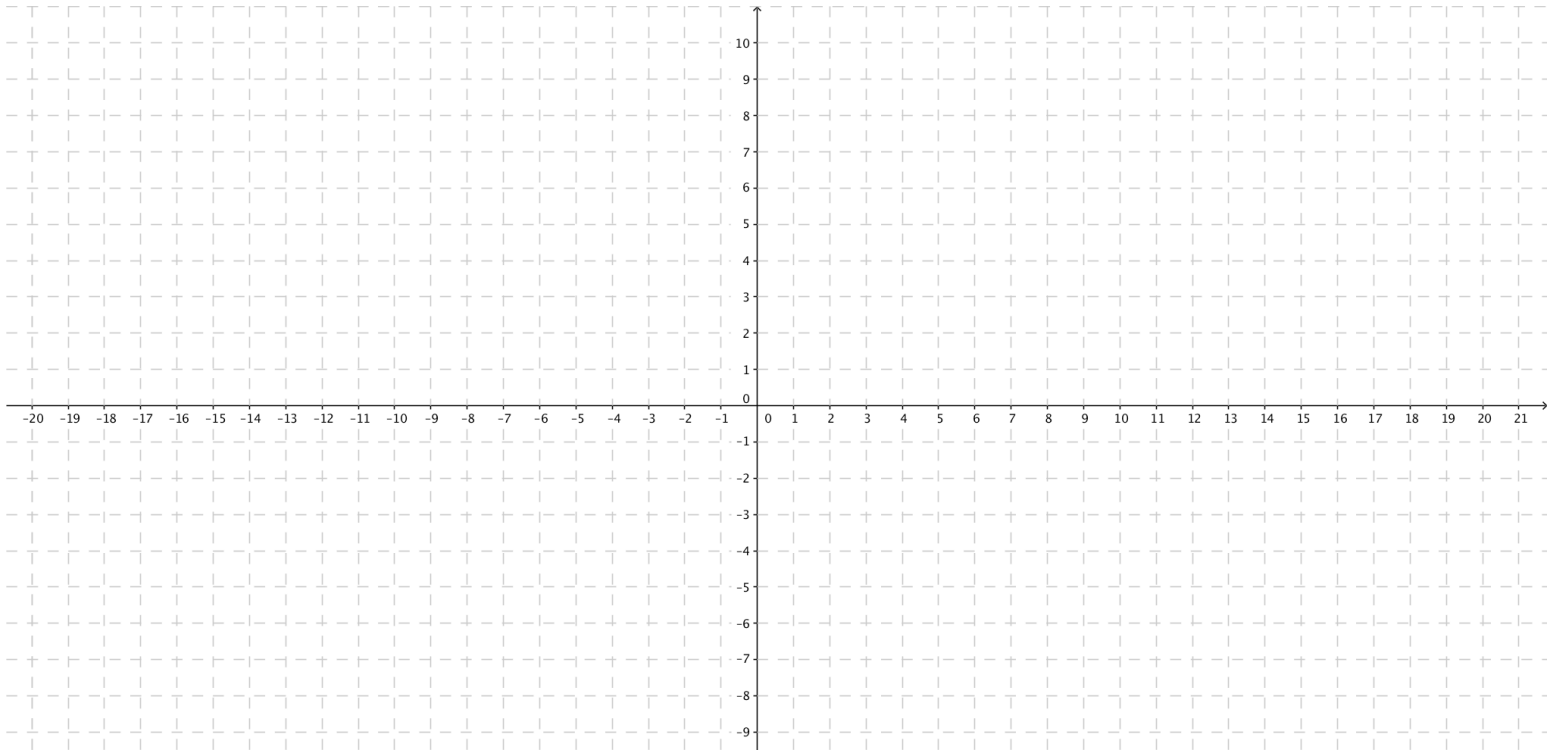
How Far Have You Traveled?

Name _____

- 1) Suppose you go for a run in the coordinate plane.
(Assume each side of a square is 1 mile long.)

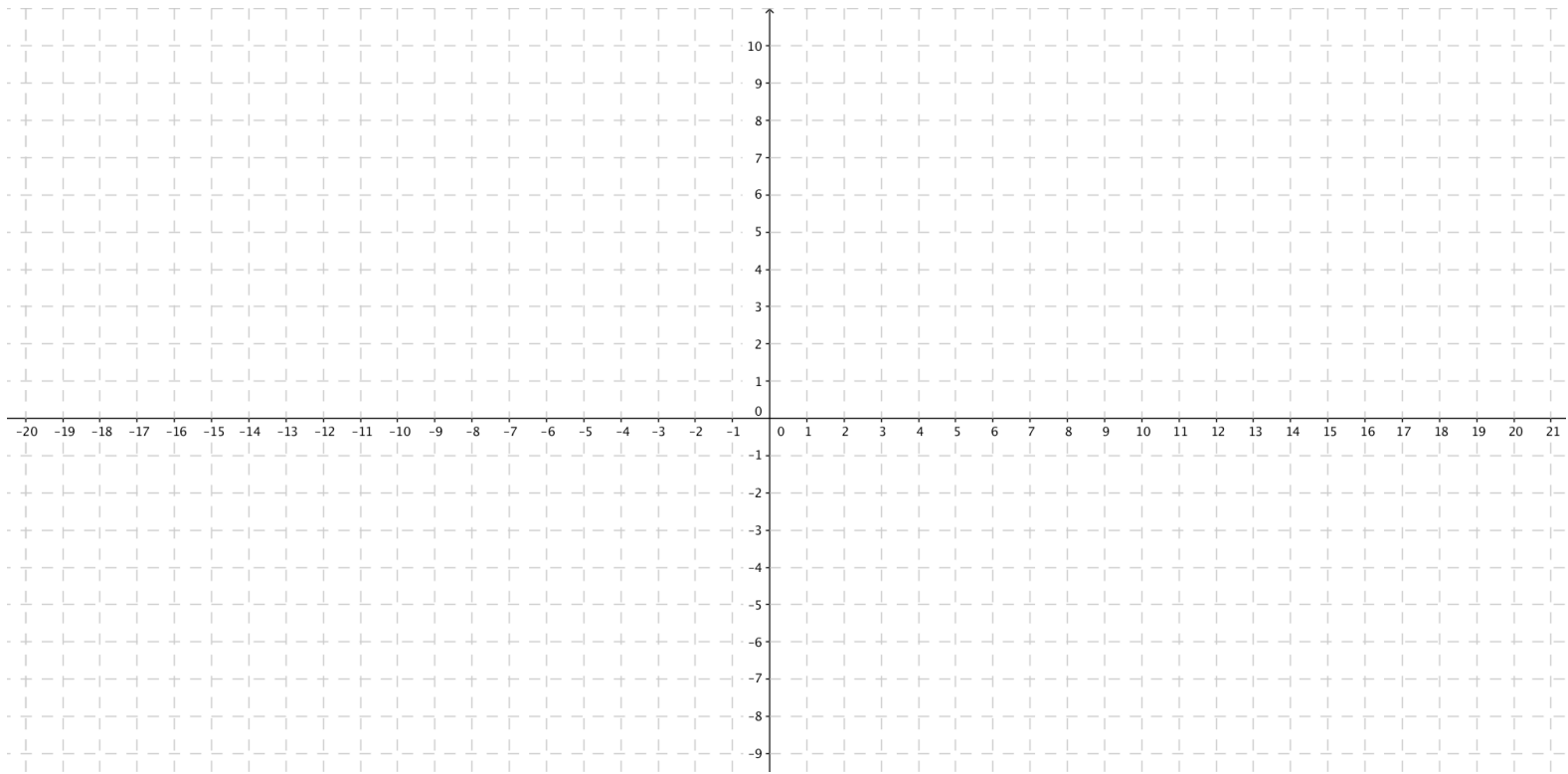
Let's suppose you start at the point $A(-12, -5)$ and then run straight to $B(4, -5)$.
From $B(4, -5)$, you then run straight to $C(4, 7)$.

*Plot this route on the sheet of coordinate plane paper provided below.
(Be sure to label your points—with both names and coordinates.)*



- 2) How many miles did you run when running from A to B ?
- 3) How many miles did you run when running from B to C ?
- 4) Now suppose you decide to run from point $C(4, 7)$ —your current location—directly back to your original starting point $A(-12, -5)$. What is the exact distance between these two points?

- 5) Use a method similar to the method you used in step (4) to calculate the distance between the points $C(-15, -6)$ to $D(16, 8)$. Be sure to provide an *exact answer (written in simple radical form—if necessary)* AND an approximate answer (rounded to the nearest 0.1.)



- 6) What method did you use to calculate the distances between both sets of points in exercises (4) & (5) on the previous pages? Explain.
- 7) Suppose you want to calculate the distance between the points $E(-14, 15)$ & $F(20, -3)$. How can we calculate this distance ***WITHOUT FIRST PLOTTING THESE POINTS IN THE COORDINATE PLANE?*** Try to do so!