1. Fill in the blanks below using what you learned today about proving that a quadrilateral is a parallelogram.

   a. Both _____ of _____ sides _____ → Parallelogram

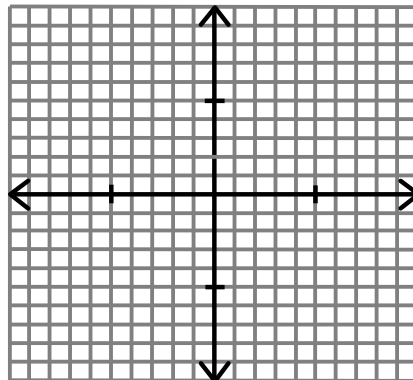   b. Both _____ of _____ sides _____ → Parallelogram

   c. Both _____ of _____ angles _____ → Parallelogram

   d. Diagonals _____ each other → Parallelogram

   e. One pair of _____ sides _____ and _____ → Parallelogram
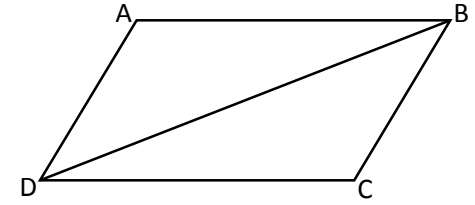
2. Is MATH a parallelogram if the vertices of the quadrilateral are M(-5, -3), A(0, -3), T(6, 2), H(1, 2)? If yes, justify your answer with both mathematical evidence (think slopes and/or distances) and a reason from #1.

3. Given: $\triangle ABD \cong \triangle CDB$
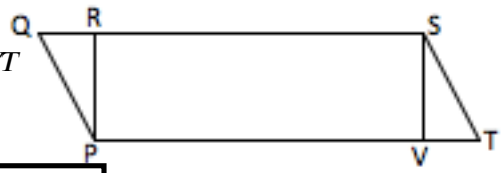   Prove: ABCD is a parallelogram

   Hint: There are multiple ways to do this so just think about CPCTC.

Statements	Reasons

4. Given: $\triangle PQR \cong \triangle STV$; $\angle RPT \cong \angle SVT$

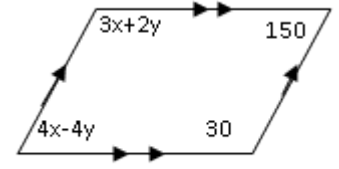   Prove: PRSV is a parallelogram

   Hint: Think about which converse from #1 would be the best to use before you start.

Statements	Reasons

5. Solve for the value of x and y.

   3x+2y   150

   4x-4y   30

6. Solve for the value of x and y.

   (3x+4y)   6x-y

   4   11