Geometry (G.CO.11)

Unit One B: Special Parallelograms #3 (HW46)

Name: _____

Date: _____ Period: _____

1. ABCD is a parallelogram and E is the intersection of the diagonals.

   BE = 4y – 5.5

   ED = $\frac{1}{2}$y + 5

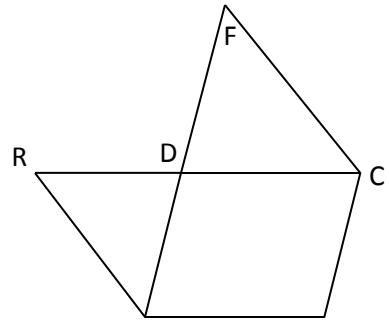
   AC = 5y – 2

   What type of special quadrilateral is ABCD? (Show your mathematical reasoning) (***Hint: it will be helpful to draw the figure)

2. Given: $DCBT$ is a rhombus;

   $\angle RTD \cong \angle FCD$

   Prove: $\overline{RD} \cong \overline{DF}$



Statements	Reasons

3. Find the lengths and the slopes of the diagonals to determine whether a parallelogram with the given vertices is a rectangle, rhombus, or square. **Give all names** that apply.

E (-2, -4), F (0, -1), G (-3, 1), H (-5, -2)

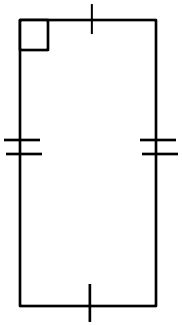
EG = _____ FH = _____

Slope of $\overline{EG}$ = _____ Slope of $\overline{FH}$ = _____

Name(s) that apply to this parallelogram and justification for why you chose each of them.

Show work here for all of #3

4. List all of the quadrilateral names that can correctly be used to describe the figure below.



5. Decide if the following statements are sometimes, always, or never true.

a) _____ A square is a parallelogram.

b) _____A rectangle is a rhombus.

c) _____A rectangle is a square.

d) _____A square is a rhombus.

e) _____A quadrilateral with exactly one pair of parallel sides is a rectangle.

f) _____A parallelogram is a rhombus.