## Geometry

Notes Lesson 6-5
Ways to prove a quadrilateral is a rhombus:
If...

Ways to prove a quadrilateral is a rectangle:

| If... |  |  |
| :---: | :---: | :---: |
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Ways to prove a quadrilateral is a square:

| If... |  |  | Then... |
| :--- | :--- | :--- | :--- |
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|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

## Examples:

For \#1-3, determine if the conclusion is valid. If not, tell what additional information is needed to make it valid.

1. Given $\overline{E F} \cong \overline{F G}, \overline{E G} \perp \overline{F H}$

Conclusion: EFGH is a rhombus.

3. Given: $\angle \mathrm{ABC}$ is a right angle.

Conclusion: $A B C D$ is a rectangle.

2. Given: $\overline{E B} \cong \overline{B G}, \overline{F B} \cong \overline{B H}, \overline{E G} \cong \overline{F H}, \Delta \mathrm{EBF} \cong \Delta \mathrm{EBH}$

Conclusion: EFGH is a square.

4. Use the diagonals to determine whether a parallelogram with the given vertices is a rectangle, rhombus, or square.
Give all the names that apply. $\mathrm{P}(-1,4), \mathrm{Q}(2,6), \mathrm{R}(4,3), \mathrm{S}(1,1)$


