

3.3 Homework

On your own paper, write the answers.

Each of the following statements describes a ladder. The hypothesis is given. Finish the conclusion. Write the number of the theorem you used for each problem (See theorems on pages 135 – 136 and 141 – 142).

1. If each side of the ladder is perpendicular to the top rung, then the sides are _____.
2. If the rungs are each perpendicular to one side, then the rungs are _____.
3. If the rungs are perpendicular to one side and the sides are not parallel, then the rungs are _____.
4. If the sides are parallel and the rungs are perpendicular to one side, then the rungs are _____.



Lines a , b , c , and d are separate lines. For each combination of three facts, determine if lines a and d are parallel or perpendicular. Drawing a picture can help you visualize the problem.

5. $a \parallel b$, $b \parallel c$, $c \parallel d$
6. $a \parallel b$, $b \perp c$, $c \parallel d$
7. $a \parallel b$, $b \perp c$, $c \perp d$
8. $a \perp b$, $b \perp c$, $c \parallel d$