Learning Goals

- Deduce new truths
- Describe sets in words, and using set-builder and roster notation.

Deduction

Layla has black pants and pink pants. They always wear pink pants OR they wear sandals. If they wear pink pants and a green shirt, they don't wear a bow tie. They never wear pink pants unless they also wear a green shirt OR sandals. If they wear sandals, they also wear a green shirt. Yesterday, Layla wore a bow tie. What else did they wear?

OR=V (logical or)
Solve using truth table and/or reasoning

P=Pink pants
S=Sandals
G=Green Shirt
B=Bowtie

Deduction

P=Pink pants
S=Sandals
G=Green Shirt
B=Bowtie

$$P \lor S$$
$$(P \land G) \to \neg B$$
$$P \to (G \lor S)$$
$$S \to G$$
$$B$$

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