

1) Construction using a compass and straight edge on another sheet of paper. Draw  $\overline{AB}$ . Construct point C so that it is not on  $\overline{AB}$  and the same distance from A and B. Construct  $\overline{AC}$  and  $\overline{BC}$ . Compare  $m\overline{AC}$  and  $m\overline{BC}$  and make a conjecture.

2) How many true conditionals can you write using the following statements?

- p: n is an integer
- q: n is a whole number
- r: n is a natural number

3) If Whitney plays a low G on her piano, the frequency of the note is 24.5 hertz. The frequency of a note doubles with each octave. What is the frequency in hertz of a G note that is 3 octaves above low G?

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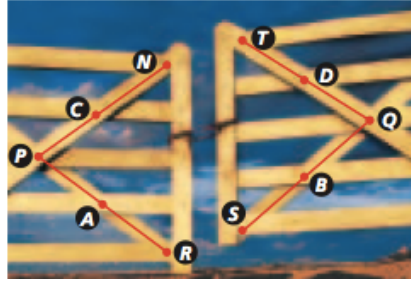
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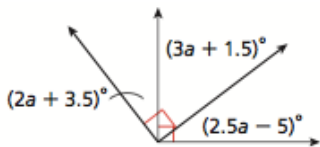
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5) In the gate (figure below),  $PA = QB$ ,  $QB = RA$ , and  $PA = 18$  in. Find PR and justify each step.

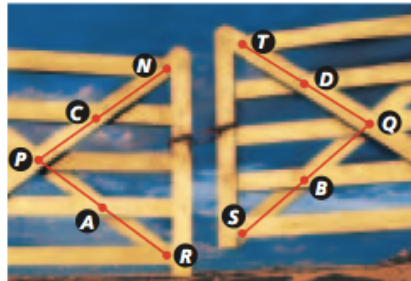


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