

Name _____

Date _____

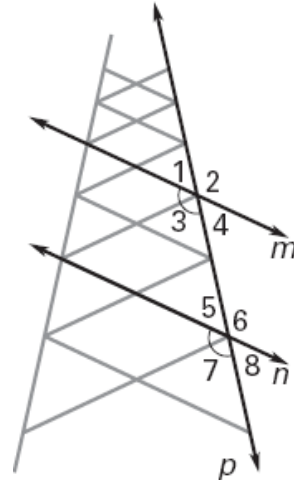
Open-ended Task: Geometry Chapter 3

Directions:

To receive full credit you must do the following:

1. Show OR describe each step of your work, even if you did it in your head (“mental math”) or used a calculator,
AND
2. Write an explanation stating the mathematical reason(s) why you chose each of your steps.

Question: The figure at the right shows the front view of a cellular phone tower’s structure.



A. Identify all the pairs of corresponding angles, alternate interior angles, alternate exterior, and consecutive interior angles formed by lines m , n and p .

B. Suppose that the lines m and n are parallel. Which angles listed in your answer in part A are congruent?

Which angles listed in your answer in part A are supplementary?

C. Suppose that lines m and n are parallel and that $\angle 1 = 46^\circ$ and $\angle 6 = (2x)^\circ$
Find the value of x .

D. Suppose that $\angle 3 = 112^\circ$ and $\angle 7 = (4x)^\circ$.
Find the value of x that makes m parallel to n