

Situational Problem

- **To develop Competency 1:** Solves a situational problem

Triangle Park

You are a city planner who has been given the assignment of designing a new neighbourhood called Triangle Park. You will be responsible for determining the layout of the streets in the neighbourhood, which is centred around a park that is triangular in shape.

? How can you design a neighbourhood that meets all of the given criteria?

Your task is to design the layout of the new neighbourhood of Triangle Park, including the streets and the park. Your design must meet the following criteria.

- A triangular park must be the centre of the neighbourhood.
- Your design must include at least six streets.
- Streets must be straight, not curved.
- You must identify at least one quadrilateral formed by the streets.
- Your streets must form at least one of each of the following types of angle pairs: vertically opposite, adjacent, straight, supplementary, alternate interior, alternate exterior, and corresponding.
- You must identify (with labels or lists) at least one pair of each of the angle types listed previously.

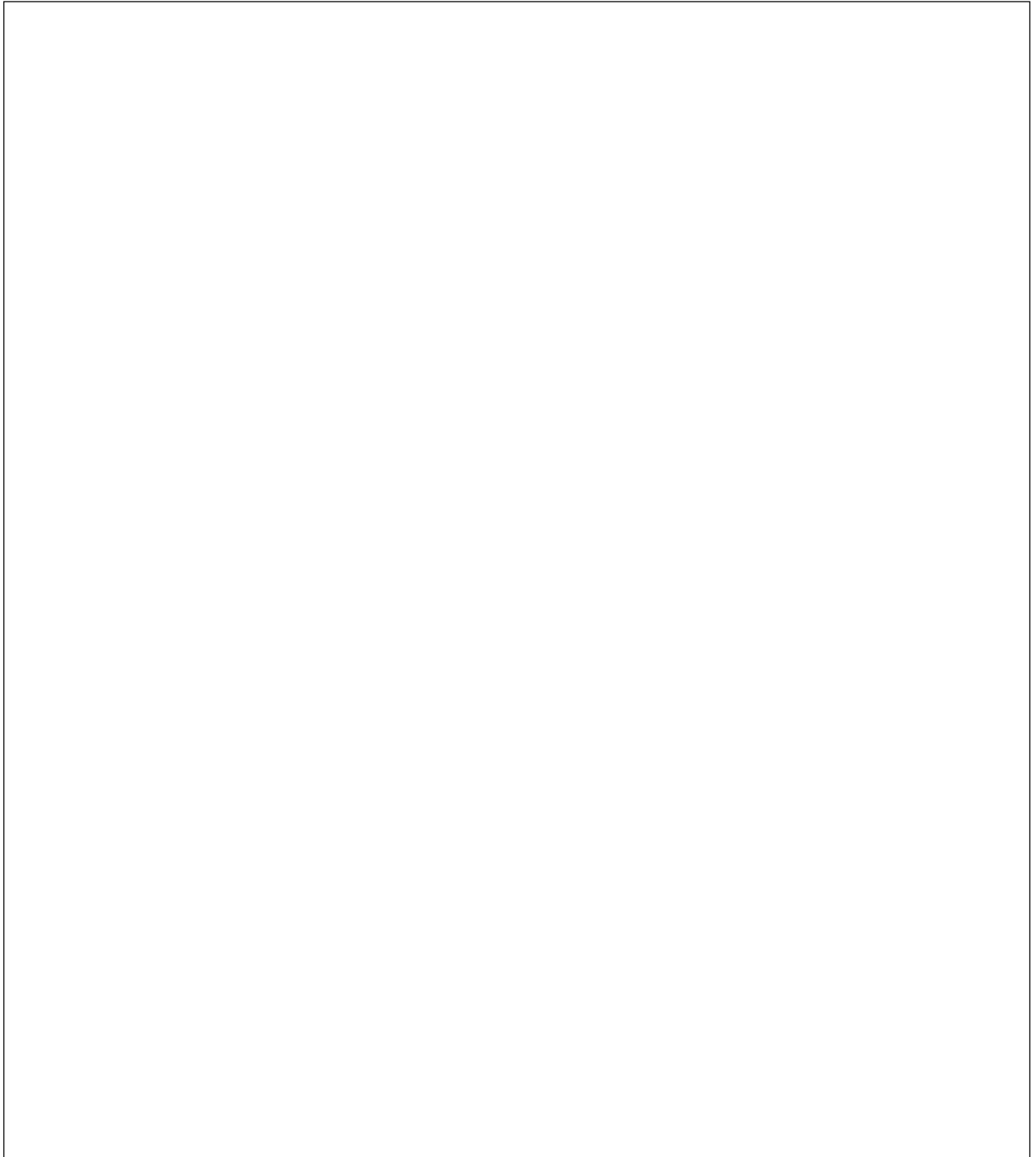
A. Think of a plan

What will you do to determine how to draw the street and park layout to meet the given criteria?

Name: _____ Date: _____

B. Carry out your plan

Draw the layout for the park and the neighbourhood streets. Identify at least one pair of each of the types of angles listed in the criteria for the neighbourhood. Are there any angles that have the same measure? If so, identify some of them and explain how you know they have the same measure. Identify at least one quadrilateral.



C. Evaluate your plan

Now that you have a solution, you know whether your plan helped you. Did you follow your plan? As you began drawing the street and park layout, did you change your initial strategies and/or steps?

D. Evaluate your solution

Is your solution complete? Is the neighbourhood layout you determined practical?

Evaluation Criteria Checklist

- You drew a layout for the neighbourhood centred around a triangular park.
- You showed at least six streets, all of which were straight and not curved.
- You identified at least one quadrilateral formed by the streets.
- The streets you drew formed at least one of each of the following types of angle pairs: vertically opposite, adjacent, straight, supplementary, alternate interior, alternate exterior, and corresponding.
- You identified at least one of each of the types of angle pairs listed above.