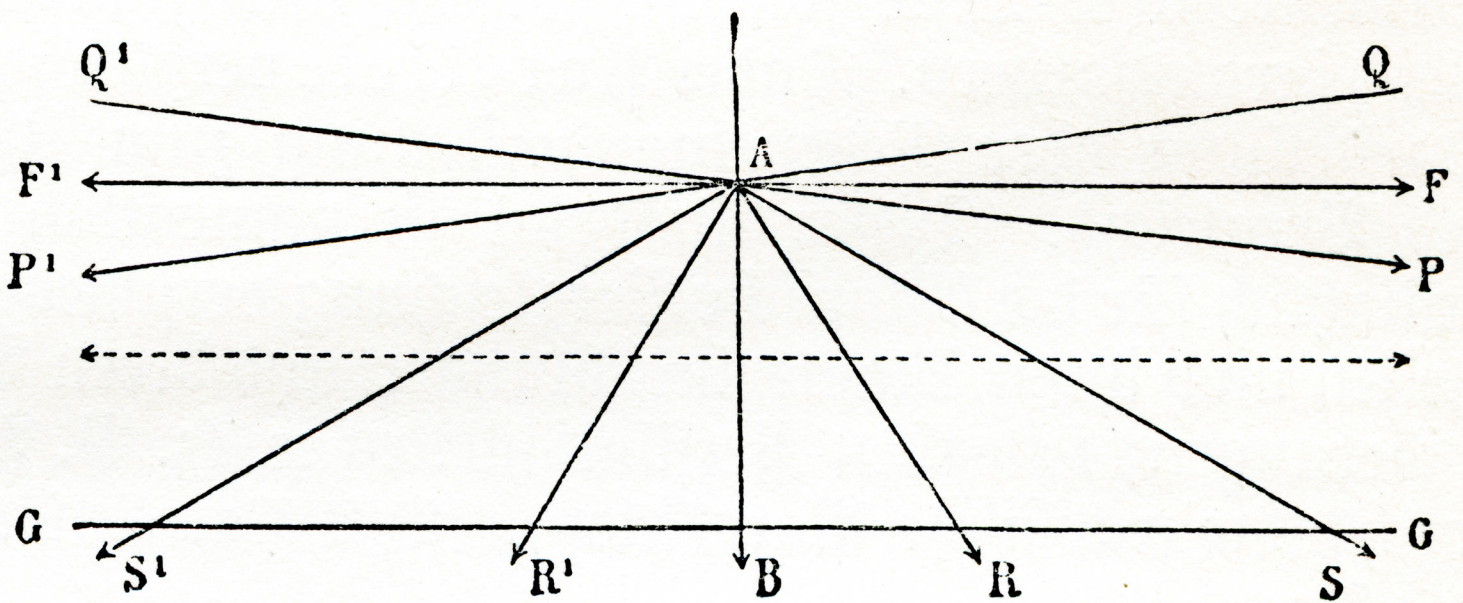


MeTEOR Performance Task

Geometry

Mathematics

Proving a Polygon



Performance Task Item: Proving a Polygon

Task/Question 1:

A. Write the Slope formula:

B. Write the Distance formula:

C. Calculate the slopes of the given points:

(2, 7) and (5, 8) _____ (1, -3) and (7, 2) _____

D. Find the distance between the given points (9, 12) and (12, 16):

Task/Question 2:

- A. Using mathematical vocabulary, explain the difference between parallel and perpendicular lines:

- B. Write the slope in the given equation: $y = -5x + 4$:

- C. What is the slope in the equation $2x + 4y = 12$?

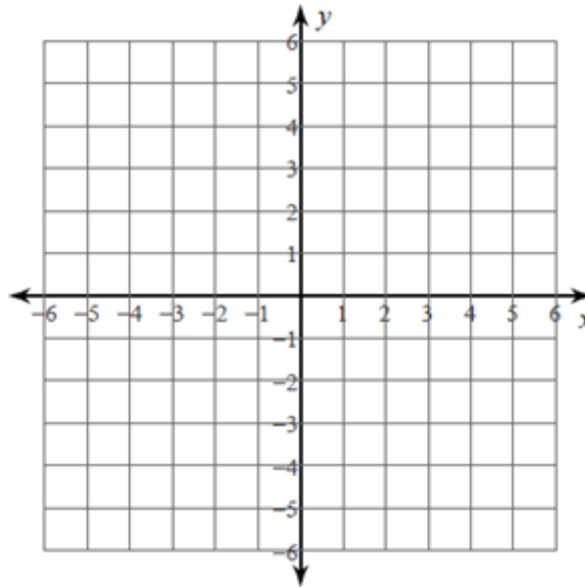
- D. Write an equation **parallel** to $y = 4x - 3$ with a y-intercept of -5 in Slope-intercept form:

- E. Write an equation **perpendicular** to $y = \frac{1}{2}x + 3$ with a y-intercept of 6 in Slope-intercept form:

Task/Question 3:

Kimmie, Marggie and Liz went camping. They had their own tents and set them up using a coordinate map. Kimmie put her tent up at point A(1, 0), Marggie put her tent up at point B(5, 0) and Liz put her tent up at point C(1, 3).

- A.** Use the coordinate grid below to **graph the points** where each girl's tent was set up:

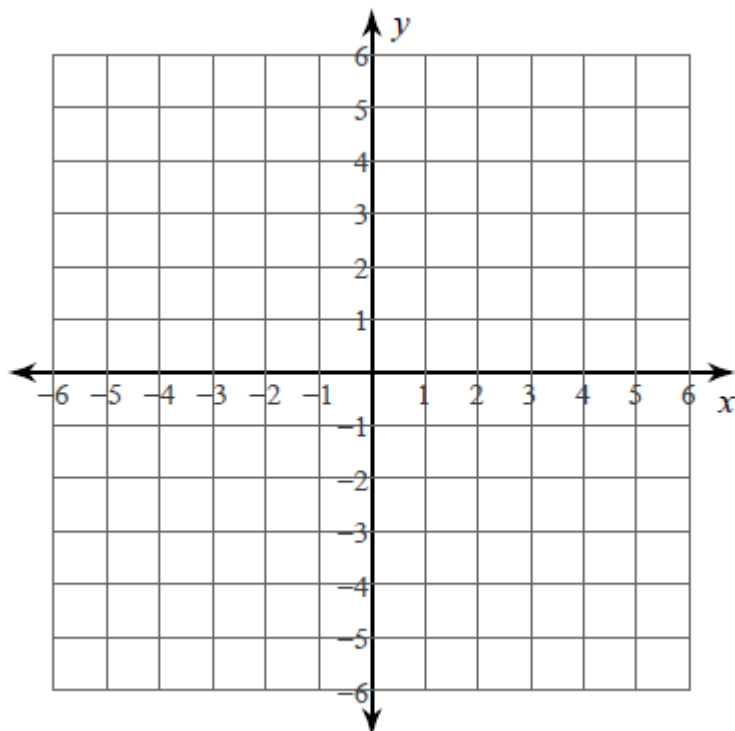


- B.** Kimmie walked from her tent to Marggie's tent, then to Liz' tent and finally back to her own tent. What shape did she walk?
- C.** Calculate the distances between each point that Kimmie walked. List your distance in Dekka-meters:
- Distance from point A to point B:
 Distance from point B to point C:
 Distance from point C to point A:
- D.** What was the total distance Kimmie walked?
- E.** Explain how you figured out the total distance Kimmie walked:

Task/Question 4:

- A.** Graph the vertices of CDEF on the graph below:

C(-2,1), D(0, -3), E(2, -2) and F(0, 2).



- B.** Explain how you know the opposite sides of CDEF are parallel:

- C.** Explain how you know the adjacent sides of CDEF are perpendicular:

D. What is the length of each side?

Length: \overline{CD} _____ \overline{DE} _____ \overline{EF} _____ \overline{FD} _____

E. What is the most precise name for figure CDEF?

F. How did you determine the shape of CDEF? Justify and defend how your approach to solving this is the **most efficient**:



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