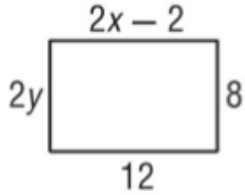# Assignment 6.3

1. Find the values of x and y so the following quadrilateral is a parallelogram.

$2x - 2$

$2y$ 8

12

2. Find the values of x and y so the following quadrilateral is a parallelogram.
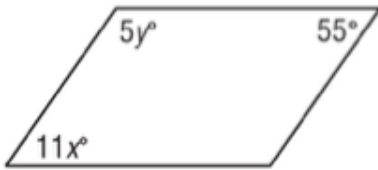

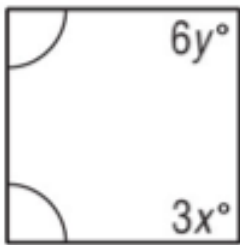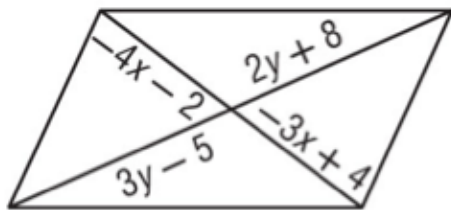$5y°$ $55°$

$11x°$

3. Find the values of x and y so the following quadrilateral is a parallelogram.

$6y°$

$3x°$

4. Find the values of x and y so the following quadrilateral is a parallelogram.

$4x - 2$ $2y + 8$

$3y - 5$ $3x + 4$

5. Sketch quadrilateral PSTF and determine if it is a parallelogram. Justify your answer with the method indicated. Is quadrilateral PSTF a parallelogram? Justify your reasoning using complete sentences and a theorem from the notes.

P(-5,1),S(-2,2),F(-1,-3),T(2,-2) Slope Formula

6. Sketch quadrilateral ROMY and determine if it is a parallelogram. Justify your answer with the method indicated. Is quadrilateral ROMY a parallelogram? Justify your reasoning using complete sentences and a theorem from the notes.

R(-2,5),O(1,3),M(-3,-4),Y(-6,-2) Distance and Slope Formula

Problem Solving

When planes fly in formation, pilots need to know their exact locations to make sure they are spaced out correctly to avoid crashing. You are working in the control tower and see the fourth pilot is flying too close to another pilot. Tell the fourth pilot exactly where he needs to be to avoid any collisions with the other three pilots so that the four pilots create the shape of a parallelogram.

Part A

7. Given the map below, without using any methods. Hypothesize approximately where the fourth point should be. Plot the point where the fourth pilot should be.
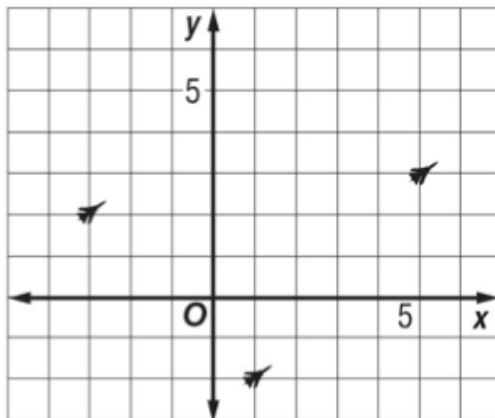
Part B

8. Using the information you learned in 6.3, state the method of how you will begin this problem and explain, using complete sentences, what you are going to do to find the fourth pilot's location.

_____

_____

_____

_____

9. Using the process you indicated in question #8, find the location for the fourth pilot. Label your work so that other people in the control tower can follow your work.

Part C

10. Where does the fourth pilot need to be flying?

11. Did your solution match your hypothesize?

Part D

Other than the process you used, explain another way you could have done this problem and come to the same conclusion? Use complete sentences and a theorem from your notes.

_____

_____

_____

_____