Midpoint formula: Find the midpoint between the given points.

a.   b.   c.
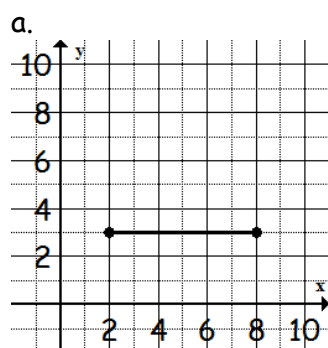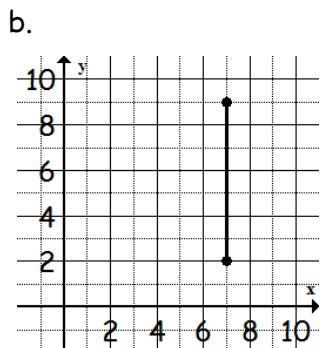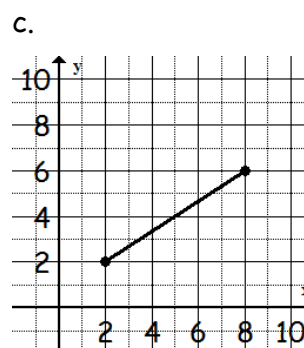

Midpoint: midpoint: midpoint:

d. (1,3) and (5,9)   e. (x_1, y_1) and (x_2, y_2)

This is the midpoint formula.

1. Use the midpoint formula to find the midpoint. Show your work.
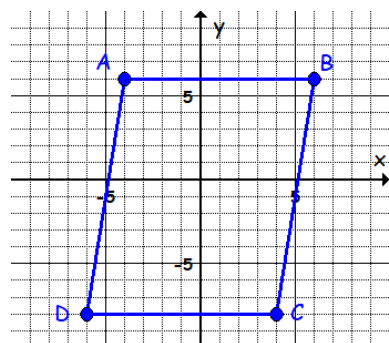   a. (-4, 5) and (-2, 11)   b. (4, -3) and (-7, 5)

Midpoints of the diagonals of a parallelogram:

We know the diagonals of a parallelogram bisect each other.
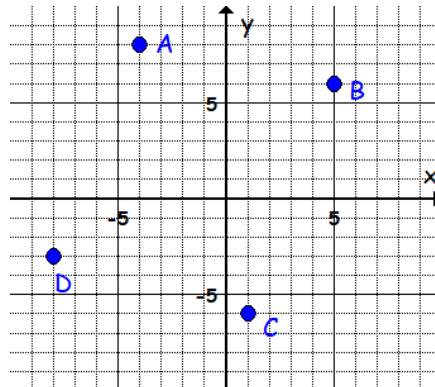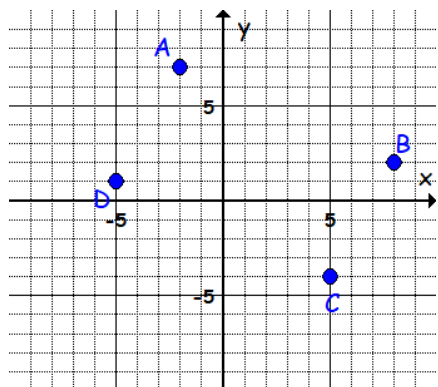   Show this on the parallelogram:

ABCD is a parallelogram, find the midpoints of both diagonals.

What do you notice?

If the midpoints are different, can it still be a parallelogram? Explain.

In this unit, you have learned the distance formula, slope and midpoints. Using this knowledge, determine if the points form a parallelogram. Show your work.

Midsegments of triangles

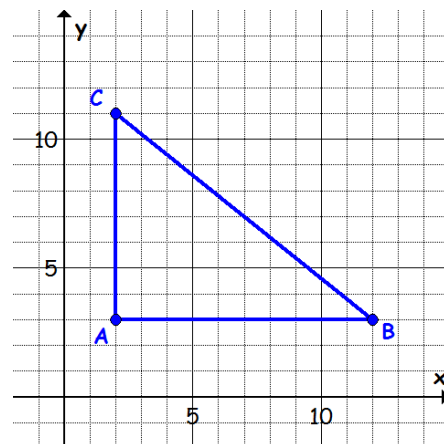Step 1: Find and plot the midpoints of each side.

midpoint of $\overline{AB}$= (,   ) Label this point D

midpoint of $\overline{BC}$= (,   ) Label this point E.

midpoint of $\overline{AC}$= (,   ) Label this point F

Step 2: Draw $\overline{FE}$, $\overline{DF}$, and $\overline{DE}$.
    These are the midsegments of ΔABC

Step 3: Find the slope of each segment:

$\overline{AB}$:_____ $\overline{BC}$:_____ $\overline{AC}$:_____
$\overline{FE}$:_____ $\overline{DF}$:_____ $\overline{DE}$:_____

What do you notice? _____

Step 4: Find the length of each segment:

m $\overline{AB}$:_____   m$\overline{AC}$:_____   m$\overline{BC}$=_____

m $\overline{FE}$:_____   m$\overline{DE}$:_____   m $\overline{DF}$:_____

What do you notice? _____

What can you prove about the four triangles you created with the midsegments?