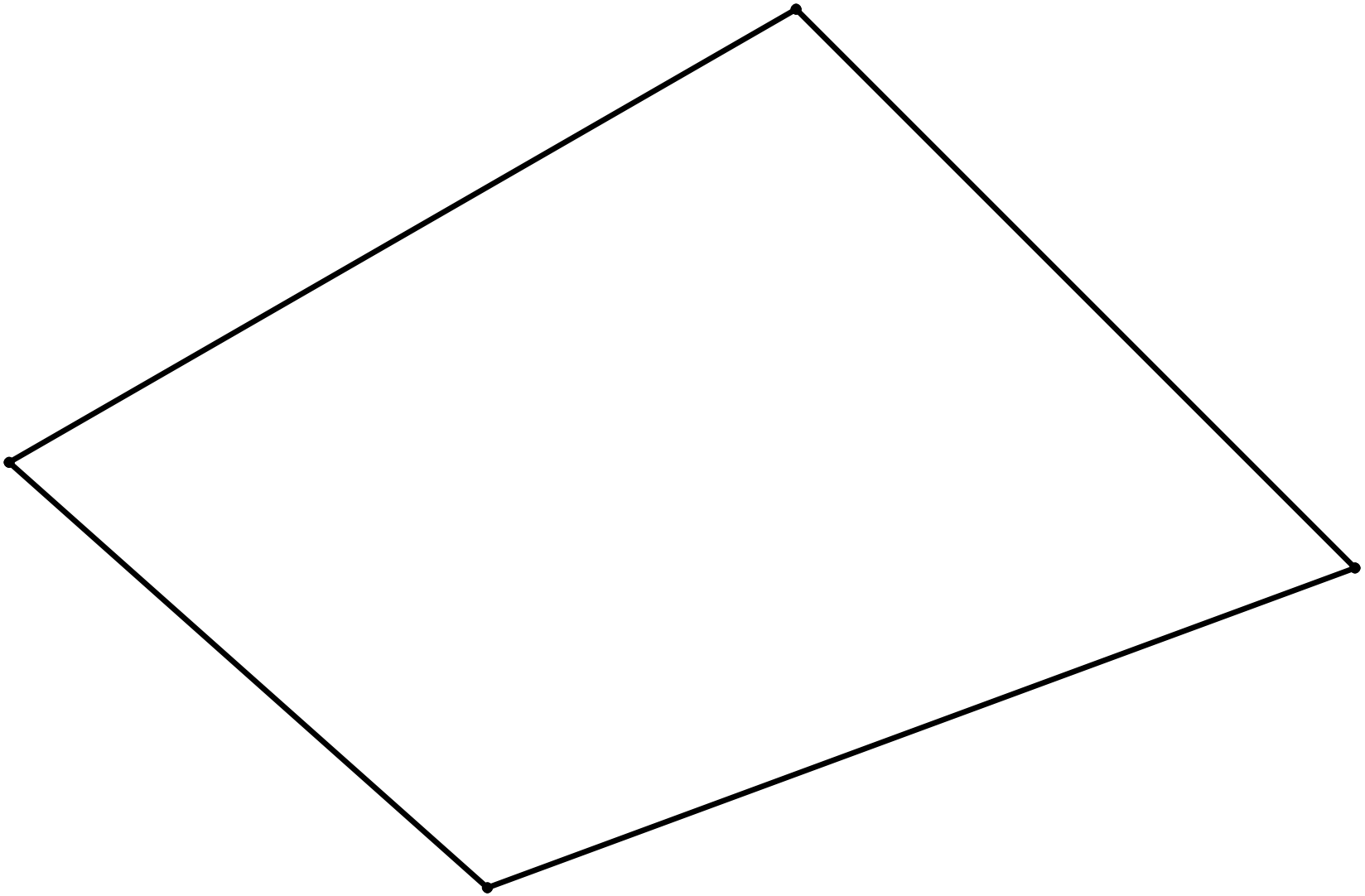
Properties of Polygons (1)

1. Name of Shape: _____
2. Label the vertices of each diagram (A, B, C and D).
3. Find the midpoints of the sides and connect points to make midsegments.
4. Measure any necessary angles to determine the shape created by the midsegments.
   Name of the internal shape: _____

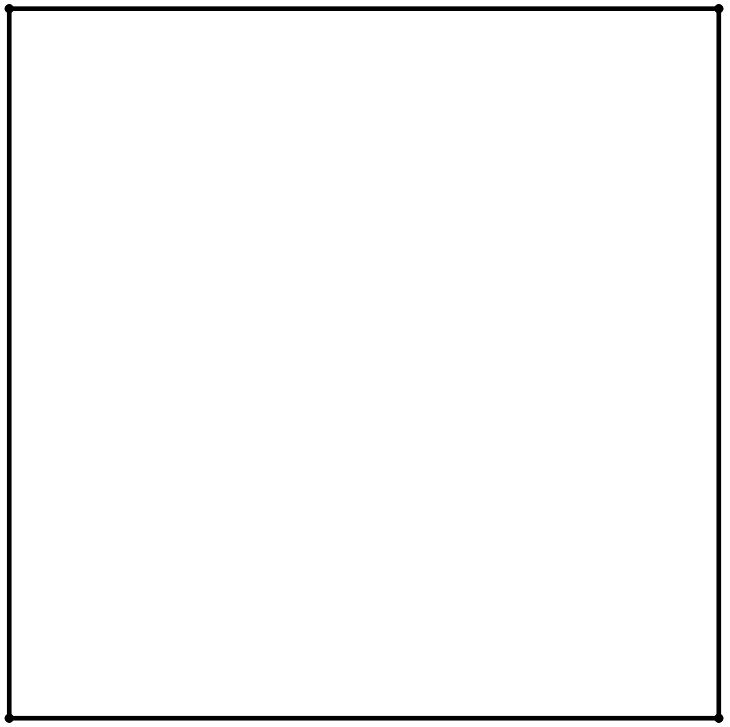
Conclusion(s):



Properties of Polygons (2)

1. Name of Shape: _____
2. Label the vertices of each diagram (A, B, C and D).
3. Draw in the inner diagonals and label the point where they intersect “M” for Midpoint.
4. Complete the table.

Conclusion(s):

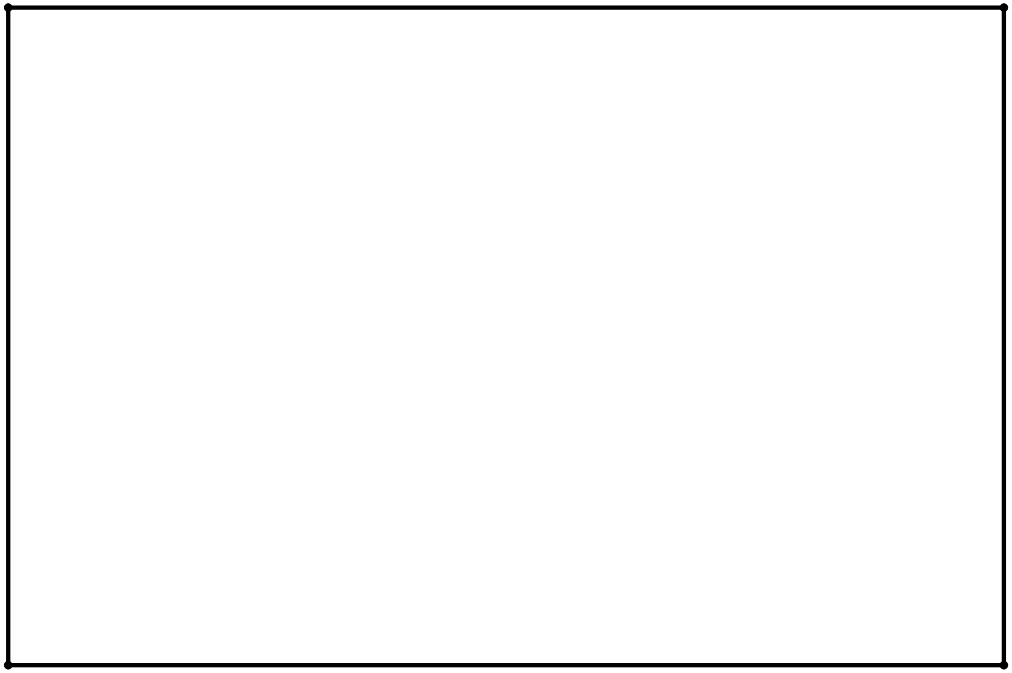


Lengths of Sides	Length of Diagonals	Diagonal to Midpoint	Angles
AB:	AC:	AM:	$\angle AMB$:
BC:		BM:	$\angle BMC$:
CD:	BD:	CM:	$\angle CMD$:
DA:		DM:	$\angle DMA$:

Properties of Polygons (3)

1. Name of Shape: _____
2. Label the vertices of each diagram (A, B, C and D).
3. Draw in the inner diagonals and label the point where they intersect “M” for Midpoint.
4. Complete the table.

Conclusion(s):

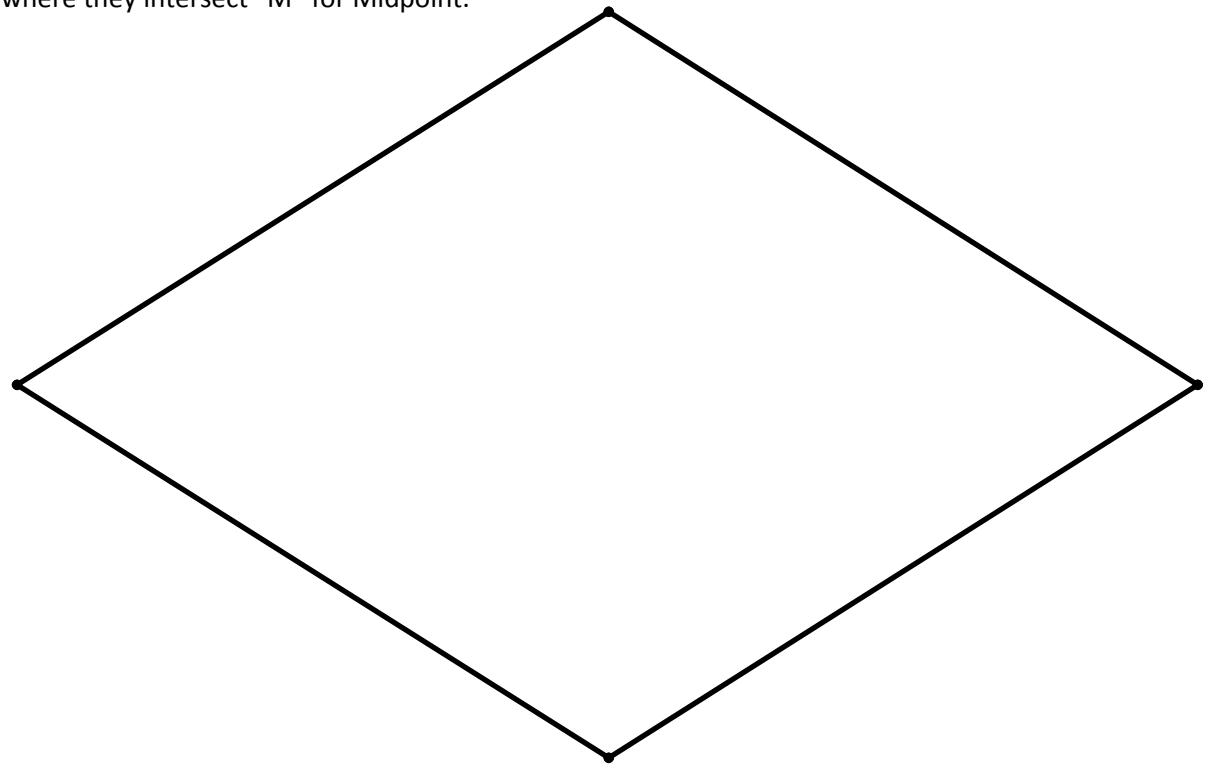


Lengths of Sides	Length of Diagonals	Diagonal to Midpoint	Angles
AB:	AC:	AM:	$\angle AMB$:
BC:		BM:	$\angle BMC$:
CD:	BD:	CM:	$\angle CMD$:
DA:		DM:	$\angle DMA$:

Properties of Polygons (4)

1. Name of Shape: _____
2. Label the vertices of each diagram (A, B, C and D).
3. Draw in the inner diagonals and label the point where they intersect “M” for Midpoint.
4. Complete the table.

Conclusion(s):

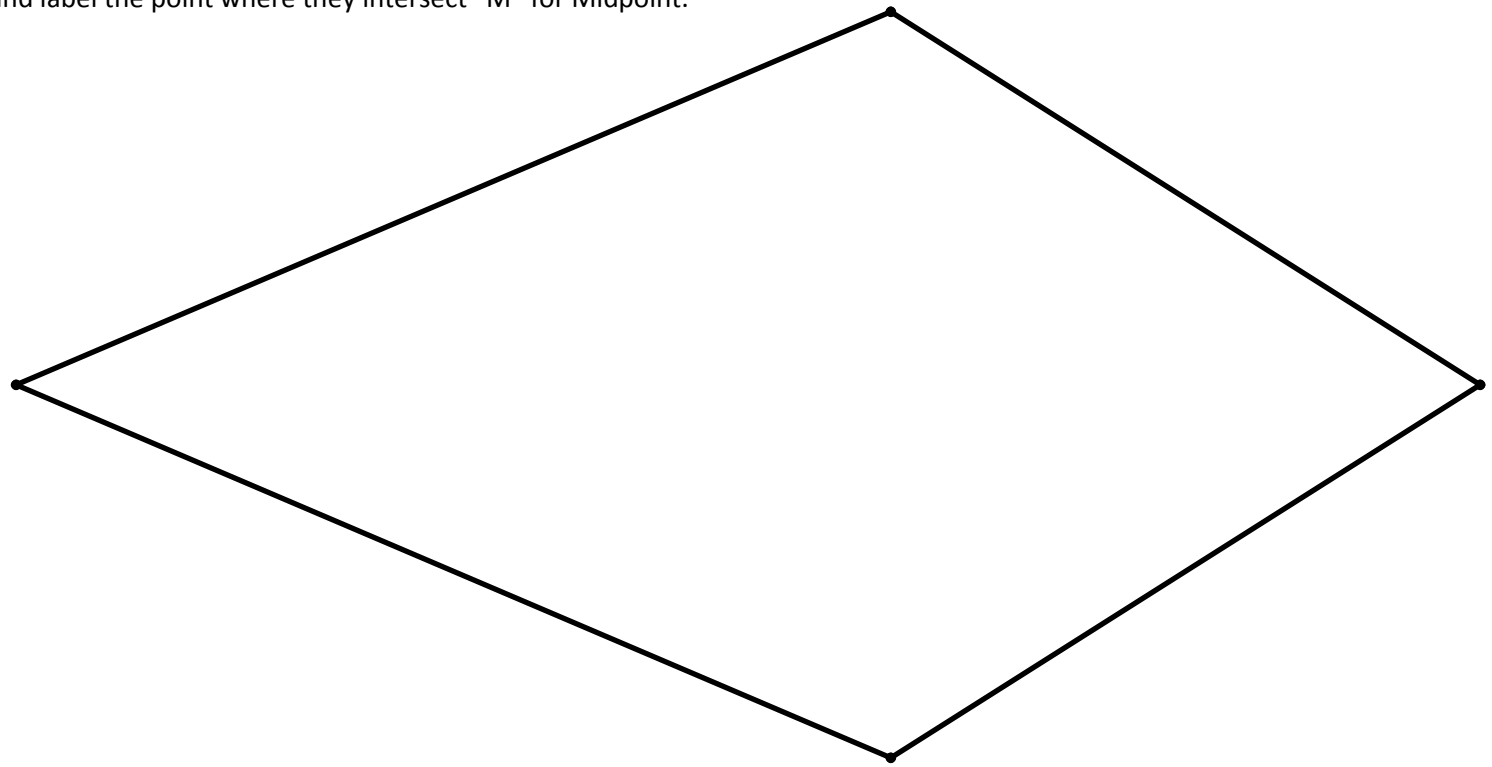


Lengths of Sides	Lenth of Diagonals	Diagonal to Midpoint	Angles
AB:	AC:	AM:	$\angle AMB$:
BC:		BM:	$\angle BMC$:
CD:	BD:	CM:	$\angle CMD$:
DA:		DM:	$\angle DMA$:

Properties of Polygons (5)

1. Name of Shape: _____
2. Label the vertices of each diagram (A, B, C and D).
3. Draw in the inner diagonals and label the point where they intersect “M” for Midpoint.
4. Complete the table.

Conclusion(s):

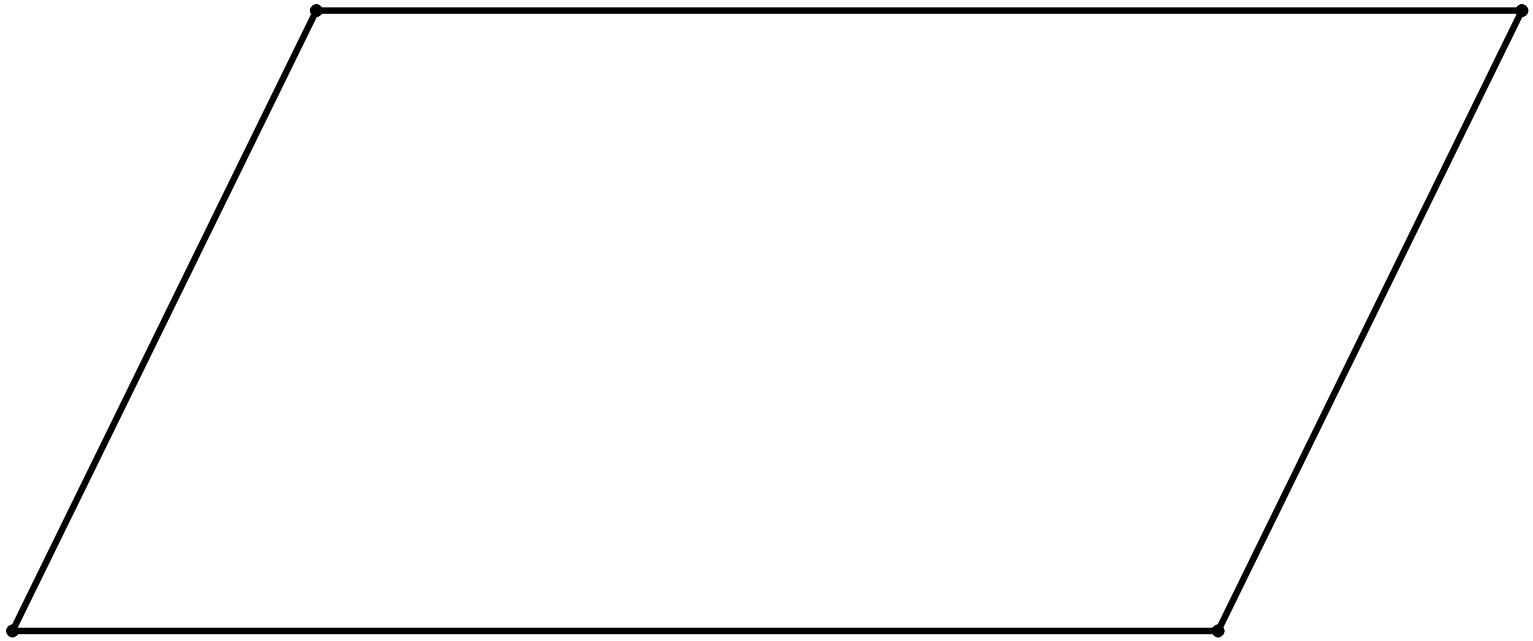


Lengths of Sides	Length of Diagonals	Diagonal to Midpoint	Angles
AB:	AC:	AM:	$\angle AMB$:
BC:		BM:	$\angle BMC$:
CD:	BD:	CM:	$\angle CMD$:
DA:		DM:	$\angle DMA$:

Properties of Polygons (6)

1. Name of Shape: _____
2. Label the vertices of each diagram (A, B, C and D).
3. Draw in the inner diagonals and label the point where they intersect “M” for Midpoint.
4. Complete the table.

Conclusion(s):

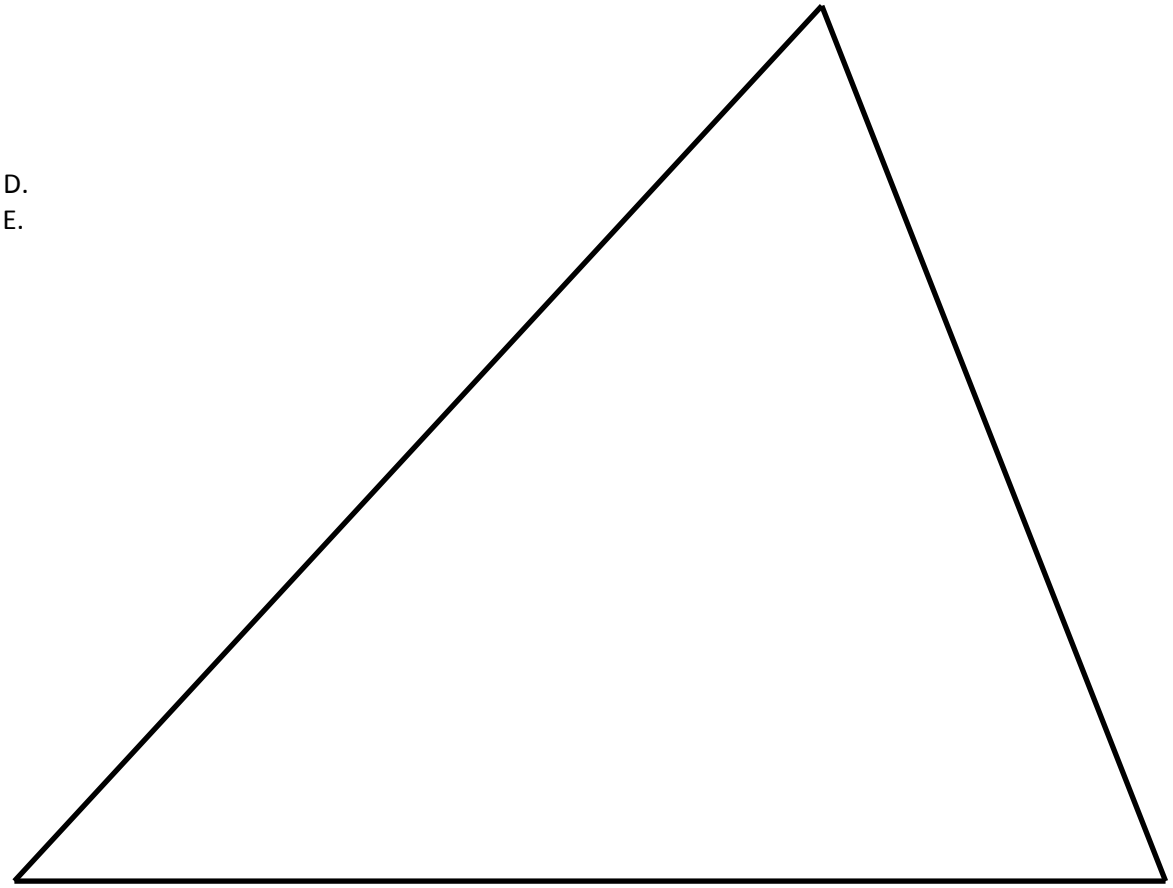


Lengths of Sides	Diagonals	Diagonal to Midpoint	Angles
AB:	AC:	AM:	$\angle AMB$:
BC:		BM:	$\angle BMC$:
CD:	BD:	CM:	$\angle CMD$:
DA:		DM:	$\angle DMA$:

Properties of Polygons (7)

1. Name of Shape: _____
2. Label the vertices of each diagram (A, B, and C).
3. Mark the midpoint of line segment AC and label it D.
4. Mark the midpoint of line segment BC and label it E.
5. Connect D and E.
6. Complete the table.

Conclusion(s):



Lengths of Sides	Length of Midsegment	Angles
AB:	DE:	$\angle ABC$:
BC:		$\angle DEC$:
CA:		$\angle BAC$:
DA:		$\angle EDC$:

Properties of Polygons (8)

1. Draw a selection of polygons with an increasing number of sides (3, 4, 5, 6 …). Make at least 5 shapes.
2. Choose one vertex and draw as many diagonals as you can from that vertex. Record this number in the table below. Can you develop a rule?
3. EXTENSION (complete when #2 is finished): Draw in all the possible diagonals in each shape and record this in the table below. Can you develop a rule?

# of Sides	3	4	5	6	7	8	9	10	Formulas?
# of Diagonals from One Vertex									
Total # of Unique Diagonals									

Conclusion(s):

Make a prediction for a shape with 100 sides. How many diagonals will such a shape have?