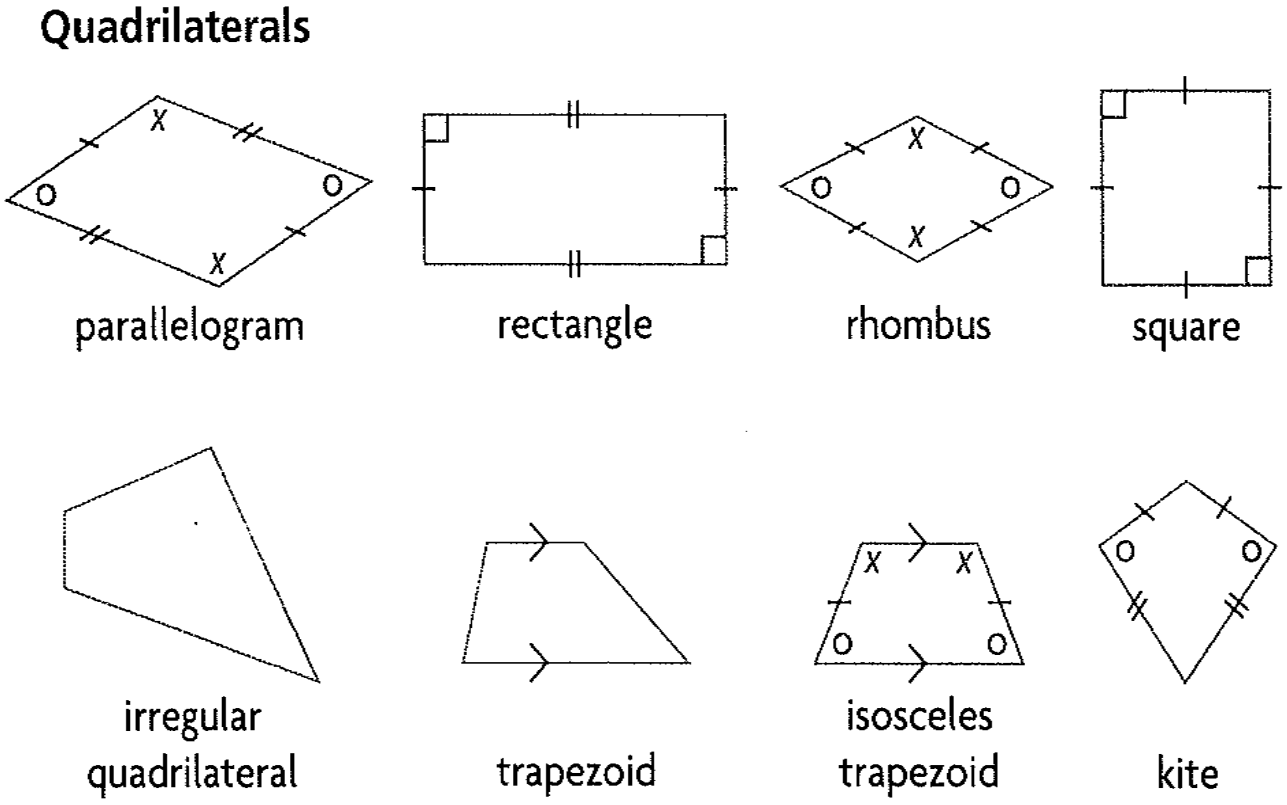
(A) Lesson Context

BIG PICTURE of this UNIT:	• mastery with algebraic skills to be used in our work with co-ordinate geometry (midpoint, length, slope) • understanding various geometric properties of quadrilaterals & triangles • how do you really prove that something is "true"?		
CONTEXT of this LESSON:	Where we've been You know how to find a midpoint, a length & slope and how to work with Geogebra	Where we are Using length, slope & midpoint in verifying properties of geometric figures	Where we are heading How can I prove various geometric properties of quadrilaterals and triangles?

(B) Lesson Objectives:

a. Review the properties of quadrilaterals and triangles through geogebra
b. Use algebraic methods to classify quadrilaterals & triangles

(C) Properties of Quadrilaterals



(D)Exploring Quadrilaterals – through dynamic geometry software: geogebra

Triangle Type	Constructed using Geogebra	Properties	Confirmed algebraically
Parallelogram	A(-2,5); B(9,3) C(12,-3); D(1,-1)		
Rectangle	A(-3,4); B(6,10) C(10,4); D(1,-2)		
Rhombus	A(2,6); B(4,12) C(6,6); D(4,0)		
Square	A(1,7); B(7,11) C(11,5); D(5,1)		
Trapezoid	A(2,6); B(8,10) C(18,6); D(6,-2)		
Isosceles Trapezoid	A(0,0); B(3,3) C(5.07,2.17); D(0.83,-2.07)		
Kite	A(-4,6); B(-7,4) C(-6,-4); D(-2,3)		

(E) "Template for your proof"

1. Visual Representation – This can be a sketch on paper or a construction in GEOGEBRA

(Optional step) Research unknown concepts. (If you don't know a vocabulary word, look it up!)

2. Decide what properties about the shape are needed to do the verification/proof. Write down in short sentence(s).

3. Do the MATH to show that those properties exisit in the given shape.

4. Write a conclusion stating what you proved AND include a justification (cite the results of your math calculations).

(F) Applications with Circles – In Class Assignment

SKILLS TASK	Complete the assigned Exploring Quadrilaterals task (7 points each)	21 points
"C" LEVEL	Basics of Quadrilaterals Complete Q3,5,10,11,12,13,14 (8 points each) Check your ANSWERS here	56 points
"B" LEVEL	Identifying Quadrilaterals Complete Q16a,17 (7 points each) ➔ ANS here	14 points
"A" LEVEL	Problem Solving with Quadrilaterals Complete Q18, 20b (5 points each)	9 points

(A) Homework/Resources

Nelson 10 Chap 2.4 – Classifying Geometric Figures, p101-102, Q3,5,10,11,12,13,14,16a,17,18,20b