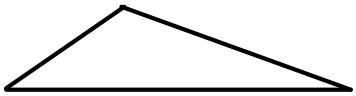
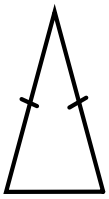
Warm-up Problems:
Classify each triangle by its sides **and** by its angles.

a. 

b. 

c. $15\frac{4}{5} - 9\frac{1}{6}$

d. Write $\frac{25}{7}$ as a mixed number.

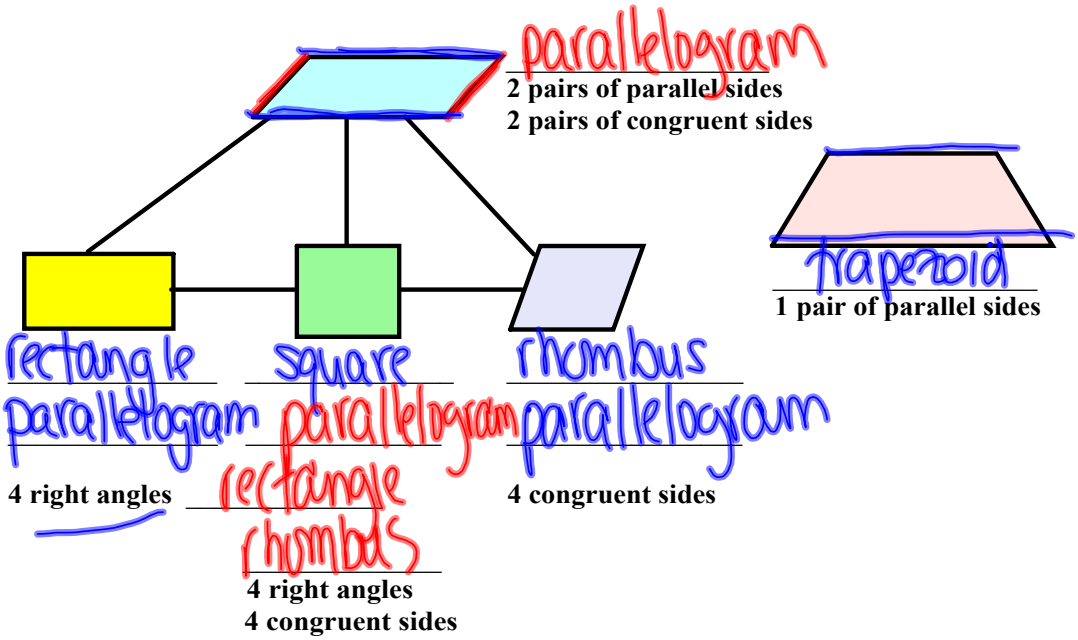
Math 5
Lesson 8-7: Quadrilaterals

Objectives: Name and classify quadrilaterals
Find the measures of angles in quadrilaterals
Thinking Skill: Explicitly assess information and draw conclusions

Remember that classification is to group things by their properties.

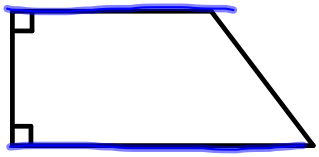
A **quadrilateral** is a four-sided polygon. Squares and rectangles are quadrilaterals. Other types of quadrilaterals are:

This chart relates all the types of quadrilaterals according to their properties.



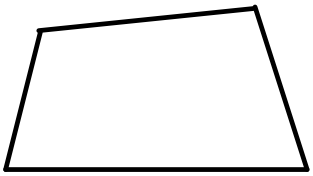
Try this: Classify each figure in as many ways as you can!

1.



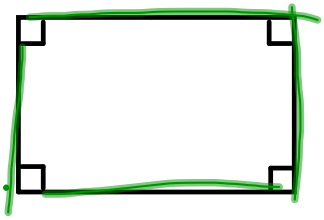
quadrilateral
trapezoid

2.



quadrilateral

3.



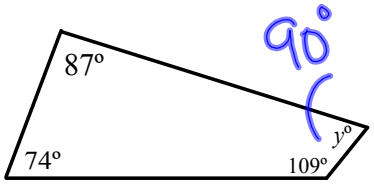
rectangle
parallelogram
quadrilateral

Recall that the sum of the measures of the angles of any triangle is 180°.

Any quadrilateral can be divided into two triangles. The sum of the measures of the angles of any quadrilateral is 180 + 180, or 360°.

Example: Find the measure of the unknown angle.

a.



90°

2
87
74
109
270

360
−270
90

y = 90°

b. In quadrilateral *DEFG*, $m\angle D = 26°$, $m\angle E = 101°$, $m\angle F = 71°$, $m\angle G = x°$.

26
101
71
198

x = 162°

151
360
−198
162

Try these: Find the measure of each unknown angle.

4. In quadrilateral *DEFG*, $m\angle D = 88°$, $m\angle E = 93°$, $m\angle F = 74°$, $m\angle G = x°$.

5. In quadrilateral *MNOP*, $m\angle M = 107°$, $m\angle N = 44°$, $m\angle O = 32°$, $m\angle P = y°$.

6. In quadrilateral *QRST*, $m\angle Q = 41°$, $m\angle R = 115°$, $m\angle S = 62°$, $m\angle T = x°$.

7. In quadrilateral *ABCD*, $m\angle A = 110°$, $m\angle B = 90°$, $m\angle C = 103°$, $m\angle D = y°$.

Name: _____
Math 6
Lesson 8-7: Additional Practice Problems

Find the measure of the unknown angle.

1. In quadrilateral *DEFG*: $m\angle D = 21°$, $m\angle E = 99°$, $m\angle F = 62°$, $m\angle G = x°$.

2. In quadrilateral *MNOP*: $m\angle M = 111°$, $m\angle N = 16°$, $m\angle O = 88°$, $m\angle P = y°$.

3. In quadrilateral *QRST*: $m\angle Q = 104°$, $m\angle R = 35°$, $m\angle S = 32°$, $m\angle T = x°$.

4. In quadrilateral *ABCD*: $m\angle A = 85°$, $m\angle B = 90°$, $m\angle C = 101°$, $m\angle D = y°$.

5. In quadrilateral *DEFG*: $m\angle D = 44°$, $m\angle E = 133°$, $m\angle F = 25°$, $m\angle G = x°$.

6. In quadrilateral *MNOP*: $m\angle M = 129°$, $m\angle N = 52°$, $m\angle O = 76°$, $m\angle P = y°$.

7. In quadrilateral *QRST*: $m\angle Q = 211°$, $m\angle R = 29°$, $m\angle S = 66°$, $m\angle T = x°$.

8. In quadrilateral *ABCD*: $m\angle A = 19°$, $m\angle B = 70°$, $m\angle C = 220°$, $m\angle D = y°$.

Classify these shapes in as many ways as you can!

a. 

b.