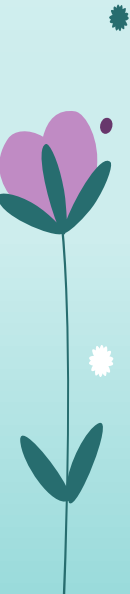
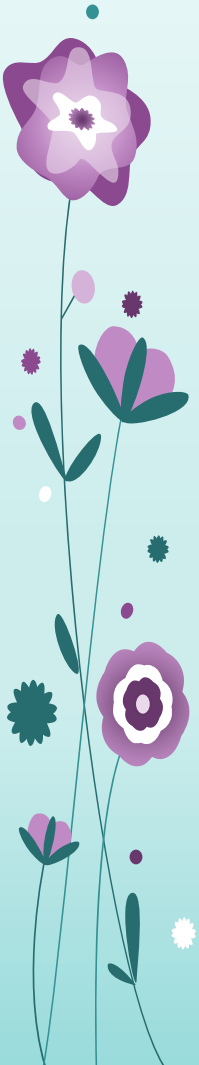


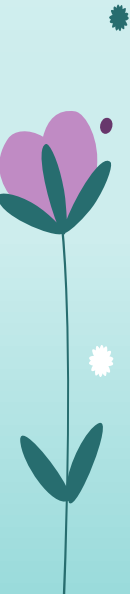
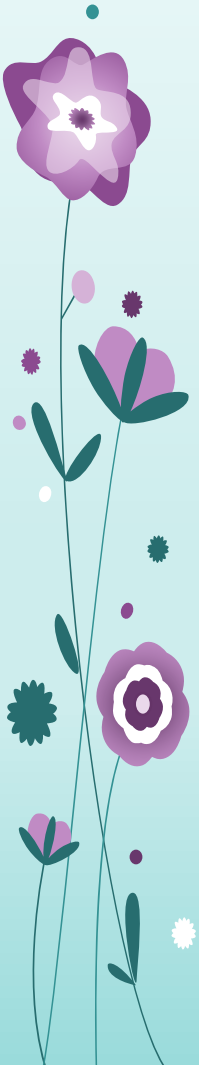
Wednesday, February 6, 2019

- Warm-up
 - Trace the shape you were given on your warm-up paper
 - Identify everything you can about that shape
 - Both name and identifying factors
- Quadrilaterals



Objectives

- Content: I will use slope and distance to classify quadrilaterals.
- Social: I will work with my group, involving and encouraging everyone.
- Language: I will clearly write my reasoning for the classification of the quadrilaterals.



Classification of Triangles

3 sides \leftrightarrow 3 angles

sum of angles
180

Right

exactly one
right angle

* 2 sides perpendicular *

can be
together

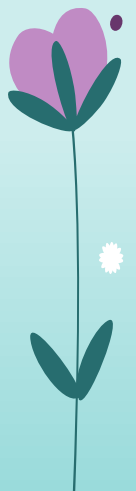
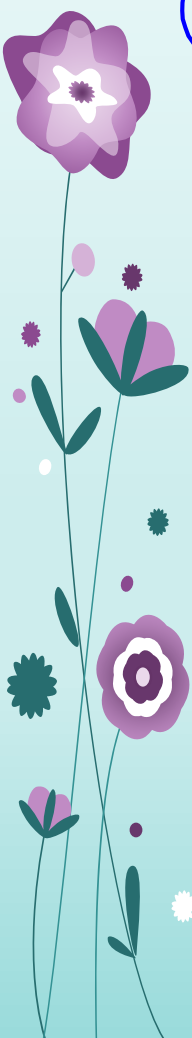
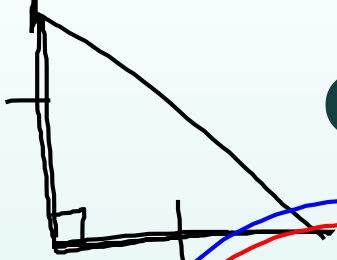
Isosceles

2 sides are the
same length

can be
together

equilateral
all equal sides
AND angles

Scalene
all sides
have different
lengths



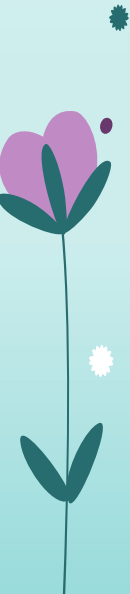
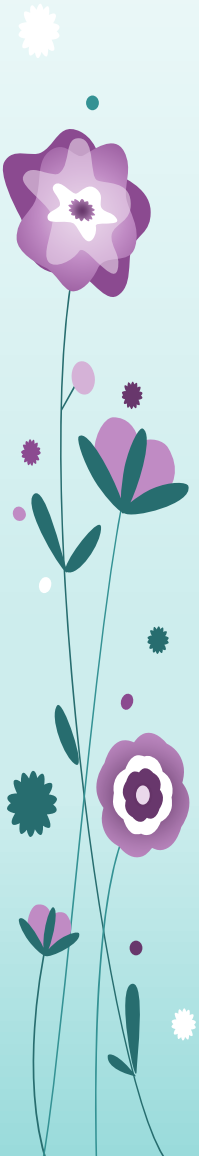
Brain Break

Celebration

< 15 seconds

can include

clean music



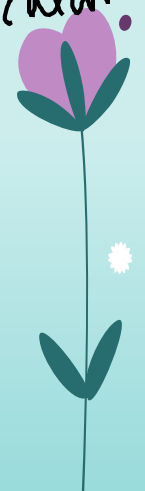
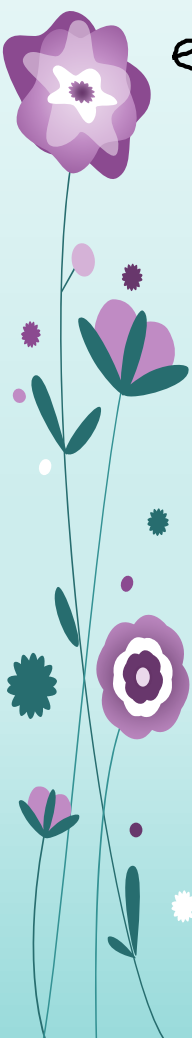
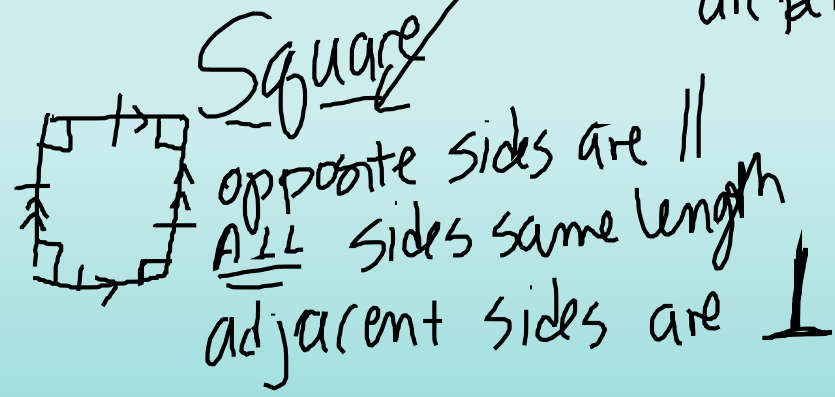
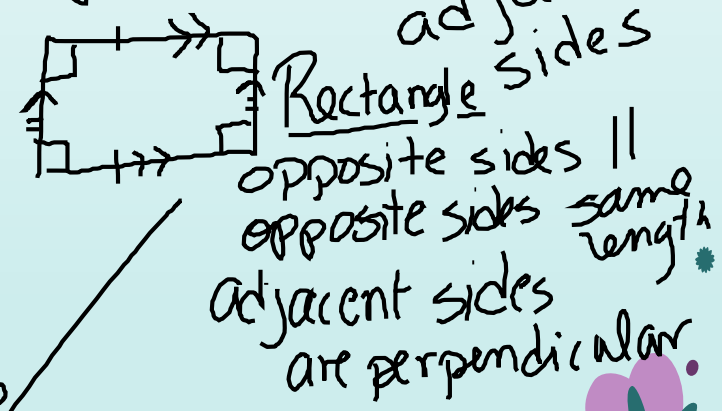
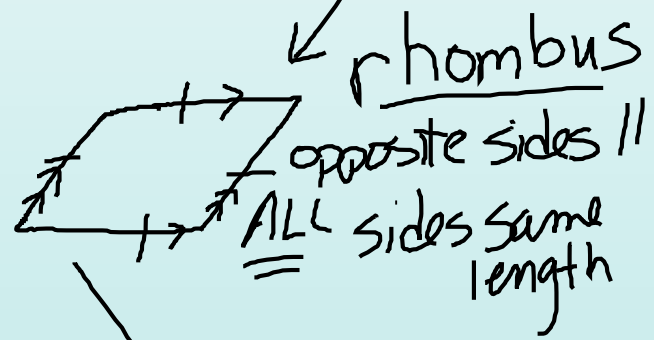
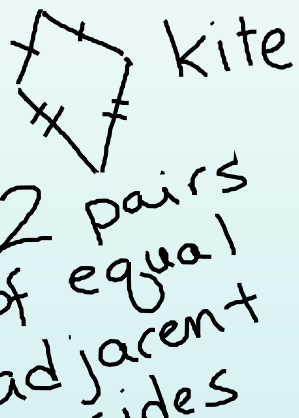
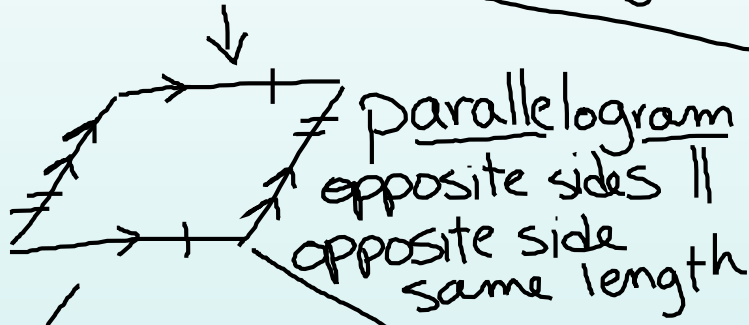
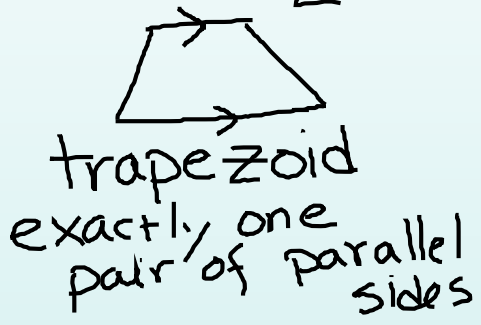
Quadrilaterals Chart & identifying factors

\perp = Perpendicular

Quadrilaterals

4 sides \rightarrow sum of angles = 360

\parallel = Parallel
 \perp = Perpendicular



Reminder:

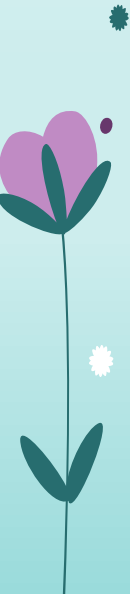
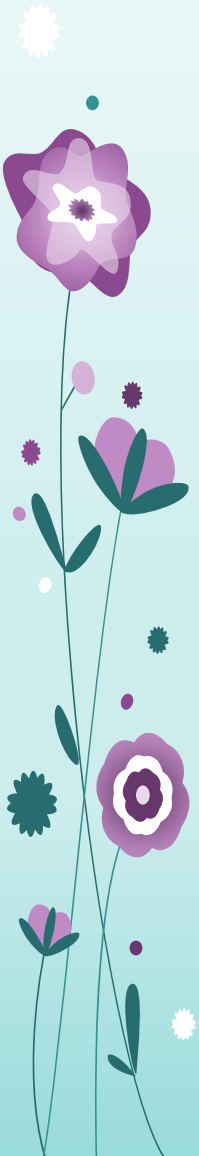
$$(x_1, y_1) (x_2, y_2) \text{ slope} = \frac{y_2 - y_1}{x_2 - x_1}$$

• Parallel Lines: Same slope

• Perpendicular Lines: opposite (one +, one -)
reciprocals (flipped)

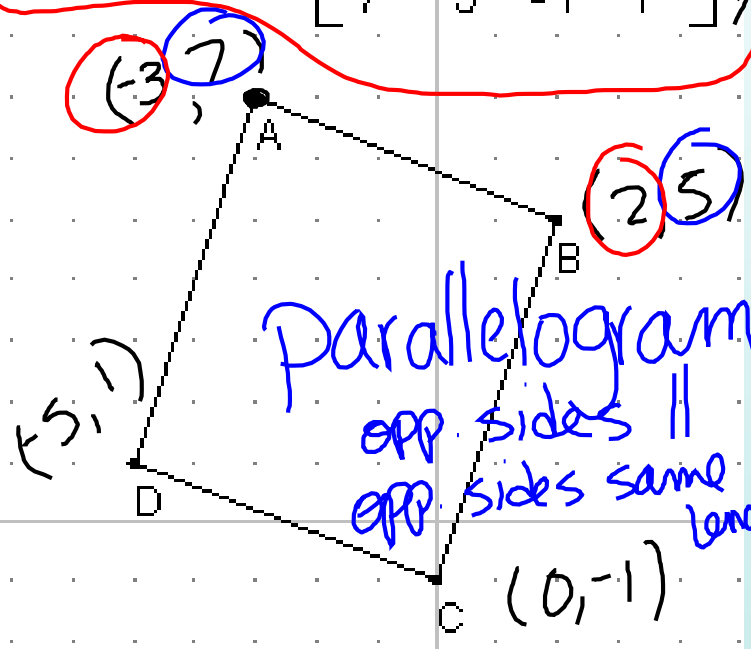
• Length (distance): $d = \sqrt{(y_2 - y_1)^2 + (x_2 - x_1)^2}$

Free Time



Together

quad ABCD = $\begin{bmatrix} A & B & C & D \\ -3 & 2 & 0 & -5 \\ 7 & 5 & -1 & 1 \end{bmatrix} \begin{matrix} x \\ y \end{matrix}$



Side	Slope	Length
AB	$-\frac{2}{5}$	$\sqrt{29}$
BC	3 <small>if $+\frac{1}{2}$</small>	$\sqrt{40} = 2\sqrt{10}$
CD	$-\frac{2}{5}$	$\sqrt{29}$
DA	3	$\sqrt{40}$

Slope AB = $\frac{5-7}{2-(-3)} = -\frac{2}{5}$ distance AB = $\sqrt{(5-7)^2 + (2-(-3))^2}$

not \rightarrow ~~Square~~
~~Rectangle~~
~~trapezoid~~

~~Rhombus~~
~~Kite~~ = $\sqrt{(-2)^2 + (5)^2}$
= $\sqrt{4 + 25}$
= $\sqrt{29}$

