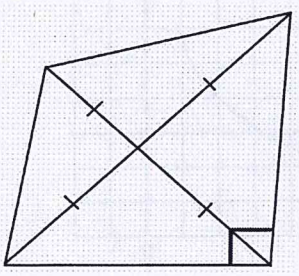
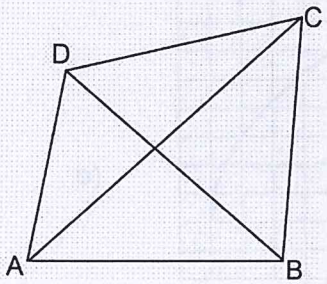
Bellwork Geometry Friday, February 14, 2020

1. Give the most precise name for each.

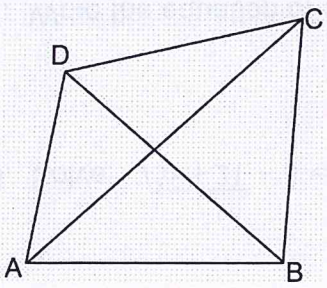
a)



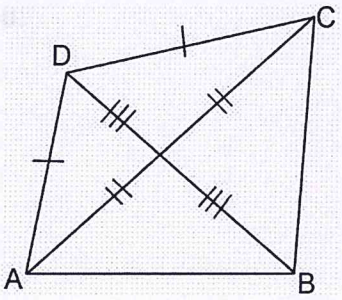
b) Given: $\angle DAC \cong \angle BCA$ $\overline{AD} \cong \overline{BC}$



C) Given: $\angle CBD \cong \angle ADB$ $\overline{AC} \cong \overline{BD}$

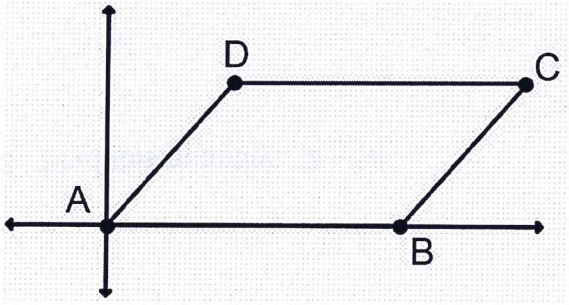


d)

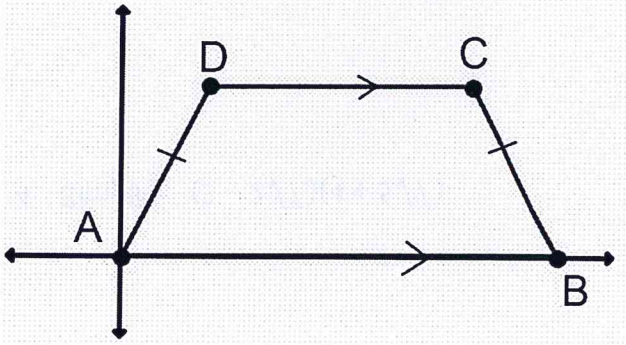


2. Use the fewest number of variables possible in order to label the coordinates of the vertices of each figure.

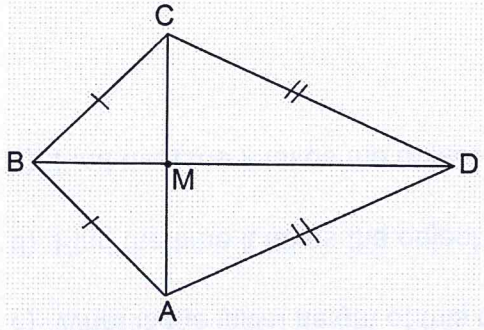
a) Parallelogram



b) Isosceles Trapezoid



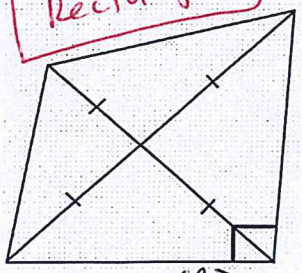
3. In Kite ABCD below, $MB = 18$, $AD = 51$, and the perimeter = 162. Find the lengths of the two diagonals.



Bellwork Geometry Friday, February 14, 2020 **Answers**

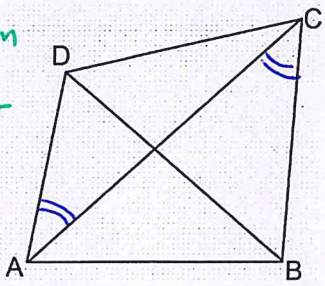
1. Give the most precise name for each.

a) **Rectangle**



- Diagonals bisect → ▱-gram
- Diagonals ≅ → Rect
- 4 Rt ∠s → Rect

b) Given: $\angle DAC \cong \angle BCA$ $\overline{AD} \cong \overline{BC}$



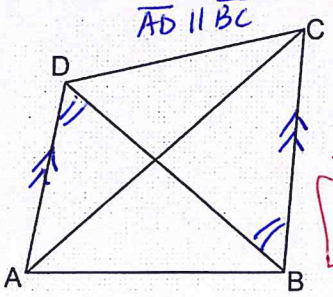
$\overline{AD} \parallel \overline{BC}$

1 pair opp sides both ≅ and ∥

parallelogram

C) Given: $\angle CBD \cong \angle ADB$ $\overline{AC} \cong \overline{BD}$

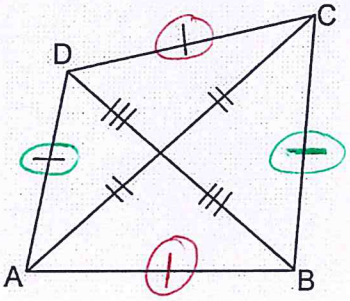
$\overline{AD} \parallel \overline{BC}$ DIAG ≅



- TRAPEZOID
- ≅ diag

Isosceles TRAPEZOID

d)



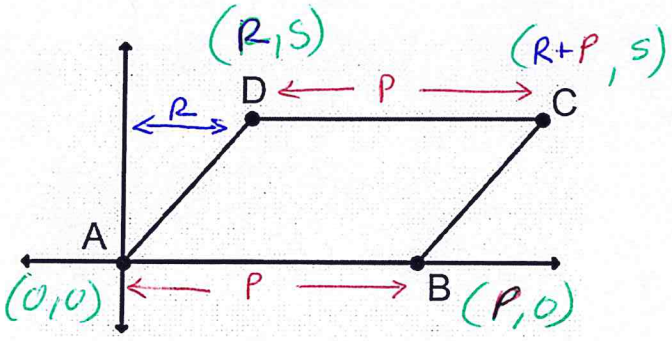
Diag bisect → ▱-gram

since it's a ▱-gram opp sides are ≅ therefore all 4 sides are ≅

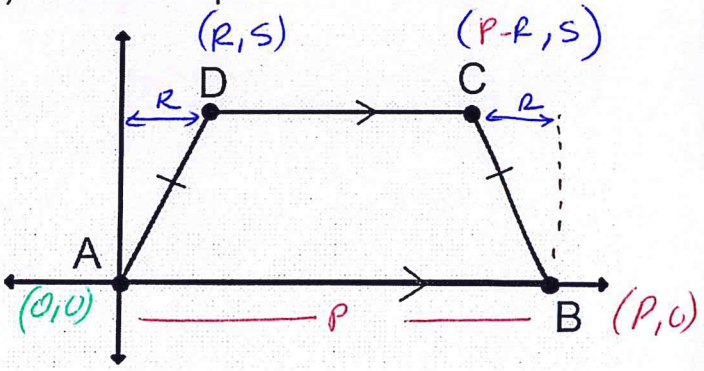
Rhombus

2. Use the fewest number of variables possible in order to label the coordinates of the vertices of each figure.

a) Parallelogram



b) Isosceles Trapezoid



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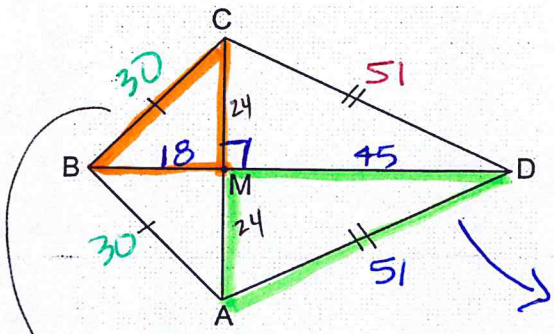


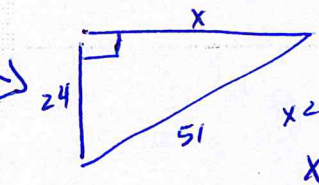
perimeter = $51 + 51 + x + x = 162$

$102 + 2x = 162$

$-102 \quad -102$

$\frac{2x}{2} = \frac{60}{2}$

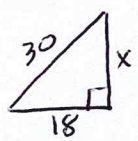
$x = 30 = BC = BA$



$x^2 + 24^2 = 51^2$

$x = \sqrt{51^2 - 24^2} = 45$

$BD = 18 + 45$ **BD = 63**



$x^2 + 18^2 = 30^2$

$x = \sqrt{30^2 - 18^2} = 24 = MC = MA$ therefore **AC = 48**