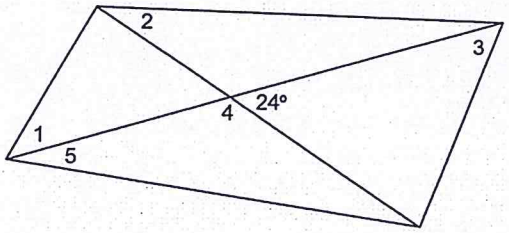
Bellwork Geo Monday, February 3, 2020

1. The diagonals of a Rhombus are 16 inches and 12 inches long. Find the perimeter of the Rhombus.

2. The area of a Rectangle is 120 cm^2. If one side is 8 cm long find the length of each diagonal.

3. Find the measure of each numbered angle in this Rectangle.



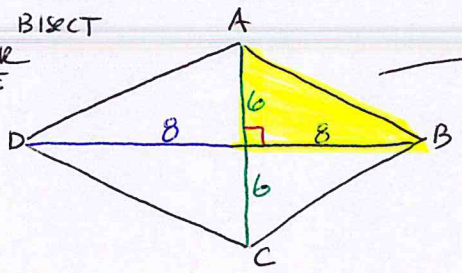
4. Use the formulas for slope, distance, and midpoint and the properties of each of the quadrilaterals to determine the most precise name for quadrilateral ABCD: Parallelogram, Rhombus, Rectangle, or just Quadrilateral: $A(7,-5)$ $B(3,-11)$ $C(-9,-3)$ $D(-5,3)$

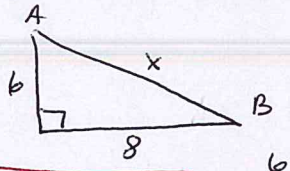
ANSWERS

Bellwork Geo Monday, February 3, 2020

1. The diagonals of a Rhombus are 16 inches and 12 inches long. Find the perimeter of the Rhombus.

DIAGONALS BISECT EACH OTHER AND ARE ⊥



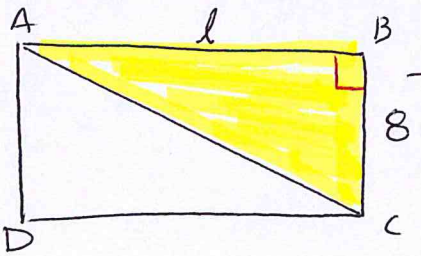


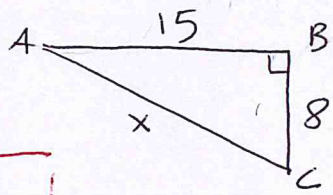
$6^2+8^2=x^2$
$36+64=x^2$
$x^2=100$
$x=10$

EACH SIDE = 10
perimeter = 4·10
40 in

2. The area of a Rectangle is 120 cm². If one side is 8 cm long find the length of each diagonal.

Area = $l \cdot w$
$120 = l \cdot 8$
$l = 15$

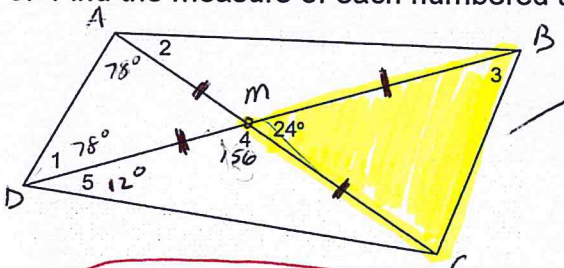




$x^2 = 8^2+15^2$
$x^2 = 64+225$
$x^2 = 289$
$x = 17$

DIAGONALS ARE ≅. They are both = 17cm

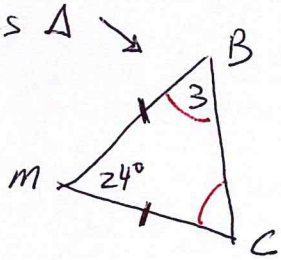
3. Find the measure of each numbered angle in this Rectangle.



$\angle 1 = 78°$ $\angle 5 = 12°$
$\angle 2 = 12°$
$\angle 3 = 78°$
$\angle 4 = 156°$

$\angle 4 = 180° - 24° = 156°$
$\angle 1 \cong \angle 3$ alt-int ∠s
$\angle 5 = 90 - 78 = 12°$
$\angle 2 = 9 - 78 = 12°$

△MBC is an isosceles △



$\angle B + \angle C + 24° = 180°$
$\angle B + \angle C = 156$
$\angle B \cong \angle C$
$\angle B = 156 \div 2$
$\angle 3 = 78°$

4. Use the formulas for slope, distance, and midpoint and the properties of each of the quadrilaterals to determine the most precise name for quadrilateral ABCD: Parallelogram, Rhombus, Rectangle, or just Quadrilateral: $A(7,-5)$ $B(3,-11)$ $C(-9,-3)$ $D(-5,3)$

is it a ll-gram?

mdpt Diag AC = $\left(\frac{7+-9}{2}, \frac{-5+-3}{2}\right)$
$= (-1,-4)$

mdpt Diag BD = $\left(\frac{3+-5}{2}, \frac{-11+3}{2}\right)$
$= (-1,-4)$

ABCD is a ll-gram b/c diagonals bisect each other

is it a Rhombus?

slope of Diag AC:
$m = \frac{-3--5}{-9-7} = \frac{2}{-16} = -1/8$

slope of Diag BD:
$m = \frac{3--11}{-5-3} = \frac{14}{-8} = -\frac{7}{4}$

ABCD NOT A Rhombus b/c diagonals NOT ⊥

is it a Rectangle?

Length of Diag AC:
$\sqrt{(-3--5)^2+(-9-7)^2}$
$= \sqrt{260}$

Length of Diag BD:
$\sqrt{(3--11)^2+(-5-3)^2}$
$= \sqrt{260}$

ABCD is a Rectangle b/c it's a ll-gram w/ ≅ diagonals