

April 13, 2015

Starter

If you are 5' tall and weigh 105 lbs,
compute the following:

- ① If you were as tall as a giraffe (17'),
how much would you weigh?

$$\begin{array}{l} \# \\ W \end{array} \frac{5}{105} \times \frac{17}{x}$$

Flower

$$\frac{5x}{5} = \frac{1,785}{5}$$

$$x = 357 \text{ lbs}$$

- ② If you weighed the same
as a peacock (13 lbs)
how tall would you be?

$$\frac{5}{105} \times \frac{x}{13}$$

$$\frac{105x}{105} = \frac{65}{105}$$

$$x = 0.62 \text{ ft}$$

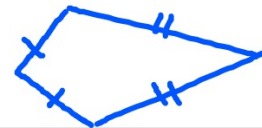
4/13 Quadrilaterals

Definition: 4-sided polygon
"closed figure"

Work with your partner and name as many
QUADRILATERALS as you can.

- 1 Rhombus
- 2 Square
- 3 Parallelogram
- 4 Rectangle
- 5 Trapezoid
- 6 Kite

Work with your partner and match the colored names of quadrilaterals with their definitions below.



1 **Trapezoid**
 Quadrilateral with exactly one pair of parallel sides

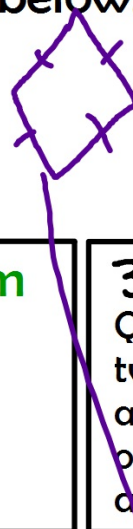
2 **Parallelogram**
 Quadrilateral with opposite sides that are parallel and congruent

3 **Kite**
 Quadrilateral with two pairs of congruent adjacent sides and opposite sides that are not congruent

4 **Square**
 Quadrilateral with four congruent sides, four right angles, and opposite sides that are parallel and congruent

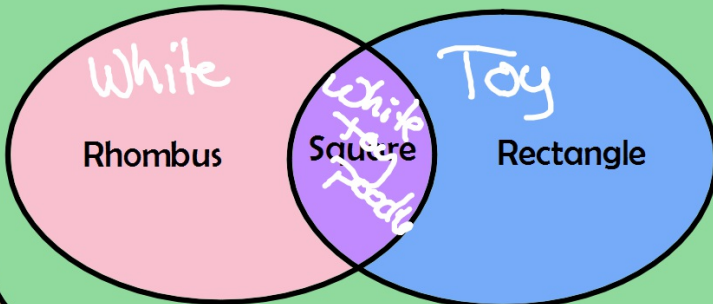
5 **Rectangle**
 Quadrilateral with four right angles and opposite sides that are parallel and congruent

6 **Rhombus**
 Quadrilateral with four congruent sides and opposite sides that are parallel and congruent

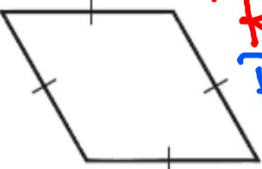


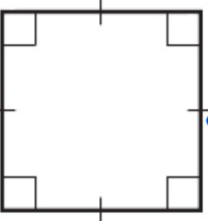
Dogs Quadrilaterals


Parallelogram
Poodle





Classify the quadrilateral.


1.  Rhombus
Parallelogram

2.  Square
Rectangle
Parallelogram
Rhombus

3.  Rectangle
Parallelogram

4.  Parallelogram

5.  Trapezoid

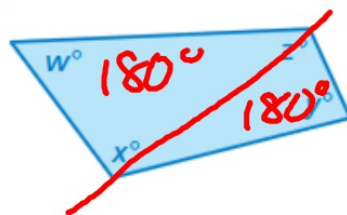
6.  Kite

Key Idea

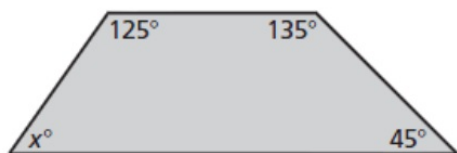
Sum of the Angle Measures of a Quadrilateral

Words The sum of the angle measures of a quadrilateral is 360° .

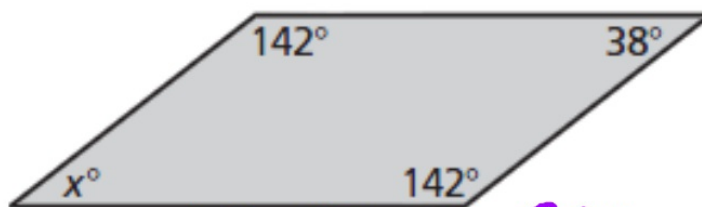
Algebra $w + x + y + z = 360$



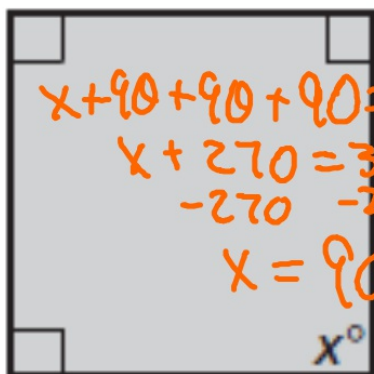
Find the value of x



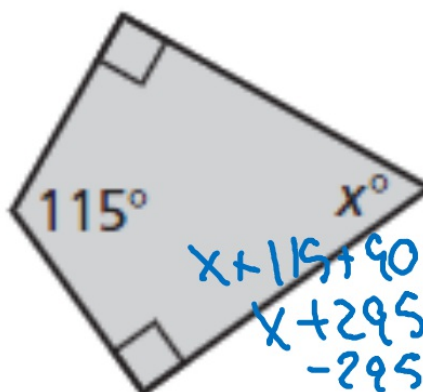
$$\begin{aligned} x + 125 + 135 + 45 &= 360 \\ x + 305 &= 360 \\ -305 \quad -305 & \\ x &= 55 \end{aligned}$$



$$\begin{aligned} x + 142 + 142 + 38 &= 360 \\ x + 322 &= 360 \\ -322 \quad -322 & \\ x &= 38 \end{aligned}$$



$$\begin{aligned} x + 90 + 90 + 90 &= 360 \\ x + 270 &= 360 \\ -270 \quad -270 & \\ x &= 90 \end{aligned}$$



$$\begin{aligned} x + 115 + 90 + 90 &= 360 \\ x + 295 &= 360 \\ -295 \quad -295 & \\ x &= 65 \end{aligned}$$

Fill in the blank with *always*, *sometimes*, or *never*.
Explain by drawing diagrams.

A rectangle is sometimes a square.

A rhombus is Always a parallelogram.

A trapezoid is Never a kite.

A parallelogram is sometimes a rhombus.

Draw the following trapezoids. If it is not possible, explain why.

a. a trapezoid with ^{only} one right angle *Cannot do*

b. a trapezoid with ^{only} two right angles

c. a trapezoid with ^{only} three right angles → makes the 4th 90°

d. a trapezoid with four right angles → rectangle or square



Homework

Due