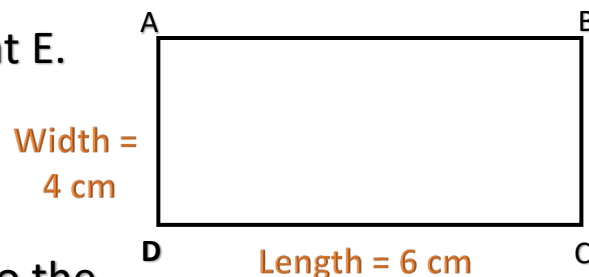


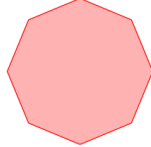
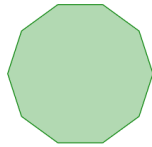
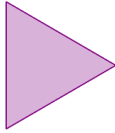
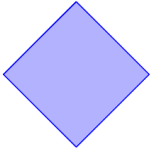
## I. Construct a parallelogram from a rectangle

1. Put a point on  $\overline{CD}$ , name it point E.
2. Draw line segment  $\overline{AE}$
3. Cut out rectangle ABCD.
4. Cut along  $\overline{AE}$
5. Translate, or slide triangle ADE to the right such that point D is on point C (Keep point "C" as the name of the point) and point A is on Point B (Keep "B" as the name of the point). Point E should be to the right of point B. Name it point "F"
6. Glue the new shape to the bottom of page one of your notes.
7. Your final shape should look like the parallelogram on the top of page 2.



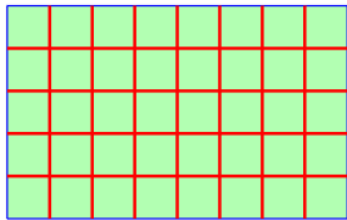
## Warmup

1. Classify Each polygon by the number of sides.



\_\_\_\_\_

3. Calculate the Area and Perimeter of the rectangle



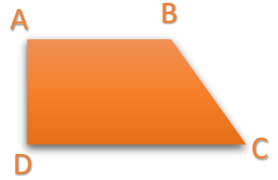
8 ft.

5 ft.

Area: \_\_\_\_\_

Perimeter : \_\_\_\_\_

2. Use trapezoid ABCD to answer the following questions.



Two sides that are

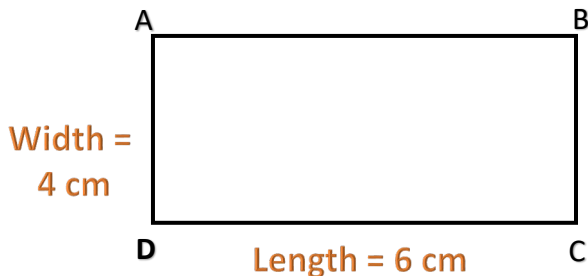
parallel: \_\_\_\_\_

perpendicular: \_\_\_\_\_

4. Simplify

$$2x + 5x + 8 + 3x + 7 =$$

## I. What is a Parallelogram?



Calculate the **area** of the rectangle

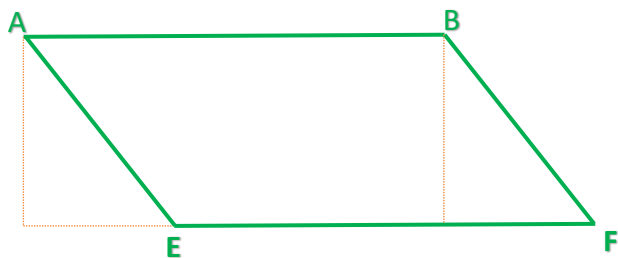
Calculate the **perimeter** of the rectangle

Glue or draw the parallelogram here

**Parallelogram:** A \_\_\_\_\_ sided polygon with opposites sides

\_\_\_\_\_ and \_\_\_\_\_.





## Identifying properties of a polygon using symbols:

To show congruent sides use tick marks.

$$\overline{AB} \cong \overline{EF} \text{ and } \overline{AE} \cong \overline{BF}$$

To show parallel sides, use arrows.

$$\overline{AB} \parallel \overline{EF} \text{ and } \overline{AE} \parallel \overline{BF}$$

Determine if each shape is a parallelogram.



Parallelogram

Not a parallelogram



Parallelogram

Not a parallelogram

6.



Parallelogram

Not a parallelogram

7.

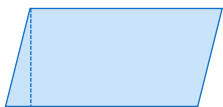


Parallelogram

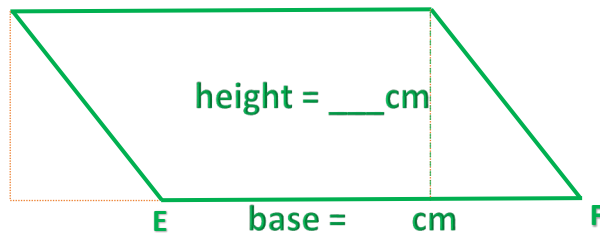
Not a parallelogram

## II. Area of a Parallelogram

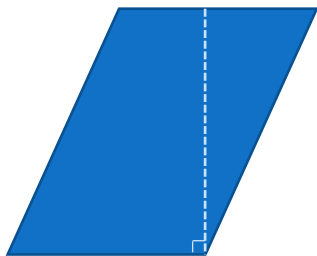
**Area of a Parallelogram:** The base and the height of a parallelogram form a \_\_\_\_\_ angle.



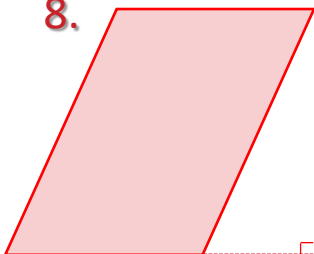
$$\text{Area} = \text{base} \times \text{height}$$



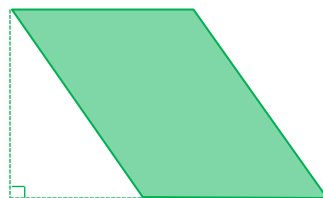
Label the base and height of each parallelogram



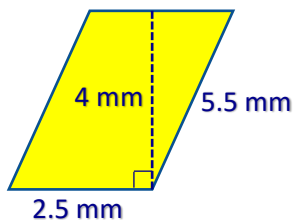
8.



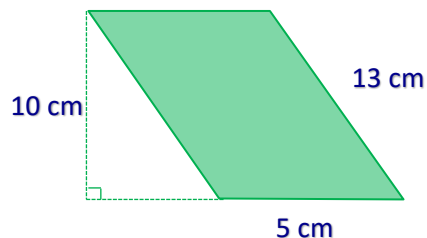
9.



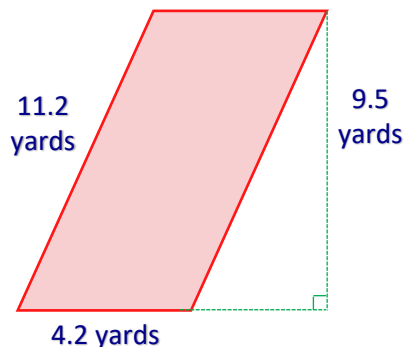
Find the Area of the parallelogram



Find the Area of the parallelogram

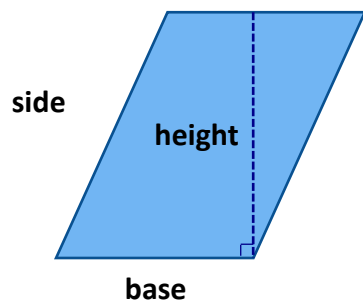


10. Find the Area of the parallelogram



11. Find the Area of the parallelogram (Practice this question as many times as necessary to become confident you can find the area of a parallelogram)

## II. Perimeter of a Parallelogram



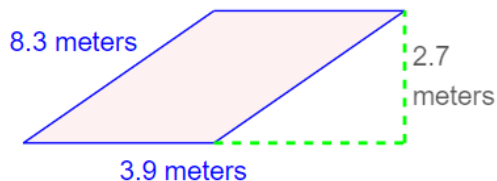
**Perimeter:** The perimeter of a figure is the \_\_\_\_\_.

Perimeter can be measure by a \_\_\_\_\_.

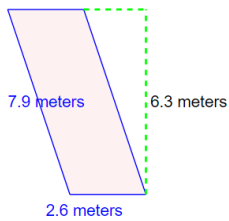
Some examples of units used for perimeter include \_\_\_\_\_.



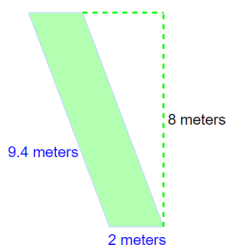
Find the Perimeter of the parallelogram



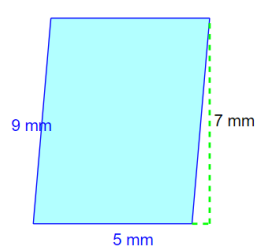
Find the Perimeter of the parallelogram



12. Find the Perimeter of the parallelogram



13. Find the Perimeter of the parallelogram



IV. Practice

14

15

16

17

18

19

20

21

22

23

24

25