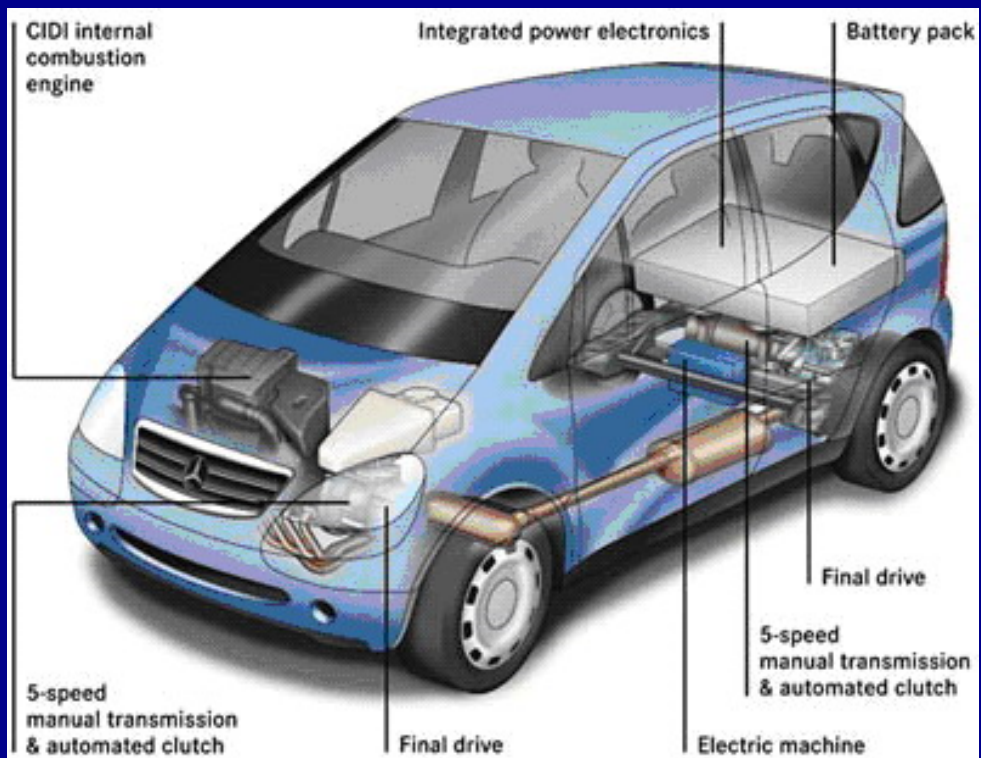


What careers would  
you find the need to  
do drawings and/or  
constructions?









## LESSON # 41

### Constructing Regular Polygons from a Given Side

STEPS

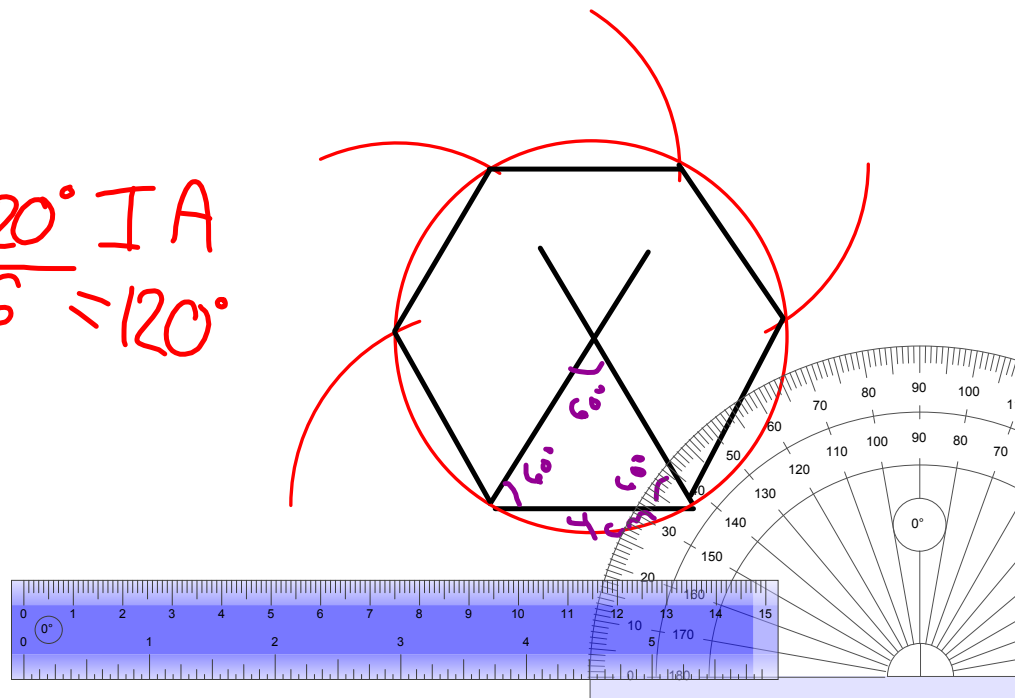
1. Find how many **isosceles triangles** are in the **polygon**.  $n = \# \text{ isosceles } \triangle$
2. Construct **one isosceles triangle** with the **appropriate angles** and sides.
3. Draw **the circle using the top vertex as a center** and one of the other **vertices as a radius**.
4. Measure with your compass **the length of** the bottom of your triangle, (now a chord within the circle).
5. Going around the circle make arcs.
6. Draw the sides of your polygon.

Example 1 ~ Construct a regular hexagon with sides 4cm

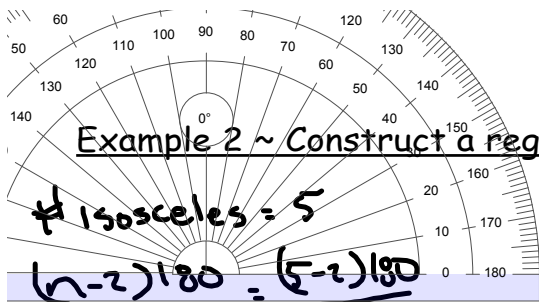
Step 1 Easy ~ hexagon = 6 sides = 6 triangles



$$\begin{aligned}
 &(n-2) 180^\circ \\
 &(6-2) 180^\circ \\
 &(4) 180^\circ = \frac{720^\circ}{6} = 120^\circ \text{ I A} \\
 &\frac{120^\circ}{2} = 60^\circ
 \end{aligned}$$



Example 2 ~ Construct a regular pentagon with sides 5cm. Back of this page



Example 2 ~ Construct a regular pentagon with sides 5cm.

# isosceles = 5

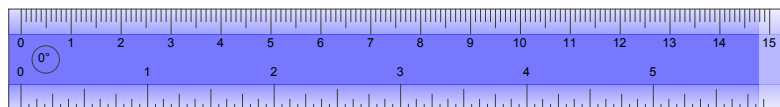
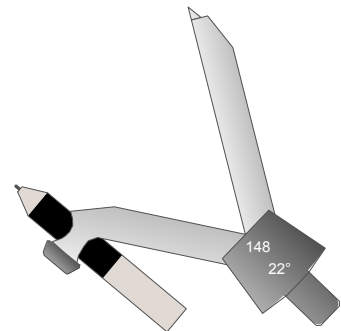
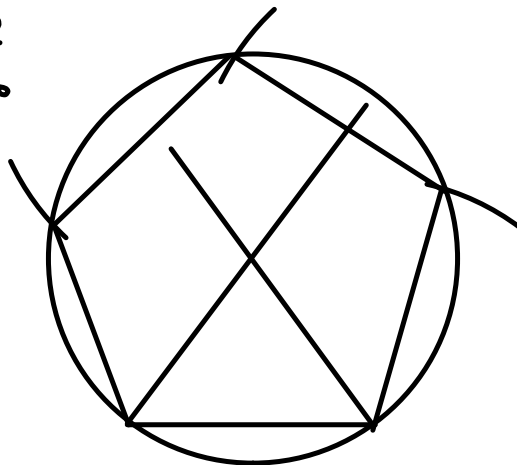
$$(n-2)180 = (5-2)180$$

n

$$= \frac{540}{5}$$

$$= 108^\circ$$

$$\frac{108^\circ}{2} = 54^\circ$$



Homework

Act Booklet

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