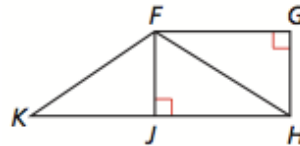


1) Two sides of an equilateral triangle measure $(y + 10)$ units and $(y^2 - 2)$ units. If the perimeter of the triangle is 21 units, what is the value of y ?

2) In $\triangle ABC$, $m\angle B$ is 5° less than $1\frac{1}{2}$ times $m\angle A$, $m\angle C$ is 5° less than $2\frac{1}{2}$ times $m\angle A$. What is $m\angle A$ in degrees?

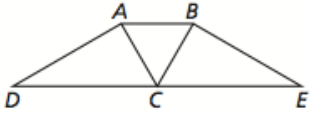
3) Polygon $ABCD \cong$ polygon $EFGH$. $\angle A$ is a right angle. $m\angle E = (y^2 - 10)^\circ$, and $m\angle H = (2y^2 - 132)^\circ$. Find $m\angle D$.

4) Find the value of x given the following information:
 $m\angle FKJ = 2x^\circ$; $m\angle KFJ = (3x + 10)^\circ$;
 $m\overline{KJ} = 4x + 8$; $m\overline{HJ} = 6(x - 4)$.



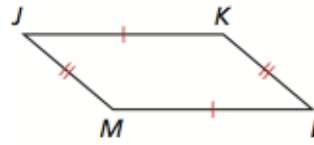
5) Use a two-column proof to solve.

Given: $\triangle ABC$ is equilateral. C is the midpoint of \overline{DE} .
 $\angle DAC$ and $\angle EBC$ are congruent and supplementary.
Prove: $\triangle DAC \cong \triangle EBC$.

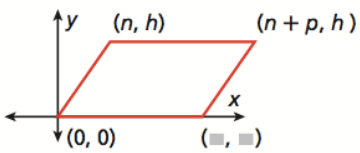


6) Use a two-column proof to solve. Given:

$\overline{JK} \cong \overline{ML}$, $\overline{JM} \cong \overline{KL}$. Prove: $\angle J \cong \angle L$.



7) Find the missing coordinates.



8) An equilateral $\triangle ABC$ is placed on a coordinate plane. Each side length measures $2a$. B is at the origin, and C is at $(2a, 0)$. Find the coordinates of A.