Homework

9 Tell whether each statement is true Always, Sometimes, or Never (A, S, or N).

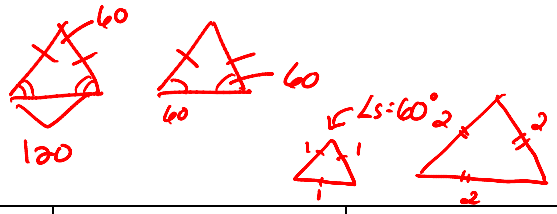
a The acute angles of a right triangle are complementary.

b The supplement of one of the angles of a triangle is equal in measure to the sum of the other two angles of the triangle.

c A triangle contains two obtuse angles.

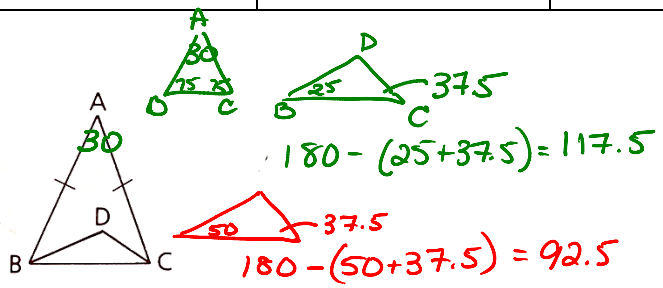
d If one of the angles of an isosceles triangle is 60°, the triangle is equilateral.

e If the sides of one triangle are doubled to form another triangle, each angle of the second triangle is twice as large as the corresponding angle of the first triangle.



9a	9b	9c	9d	9e
A	A	N	A	N

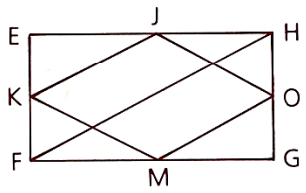
16 Given: $\angle A = 30°$, $\overline{AB} \cong \overline{AC}$;
$\overrightarrow{CD}$ bisects $\angle ACB$.
$\overrightarrow{BD}$ is one of the trisectors of $\angle ABC$.
Find: $m\angle D$

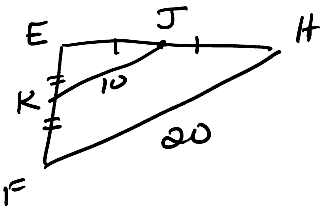


17 Given: EFGH is a rectangle.
FH = 20;
J, K, M, and O are midpoints.

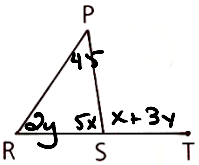
a Find the perimeter of JKMO. 4(10) = 40

b What is the most descriptive name for JKMO? RHOMBUS





18 Given: $\angle PST = (x + 3y)°$,
$\angle P = 45°$, $\angle R = (2y)°$,
$\angle PSR = (5x)°$
Find: $m\angle PST$



$\angle PSR$ & $\angle PST$ supp (st$\angle$ ⇒ supp$\angle$s)
$\angle PSR + \angle PST = 180$ (supp ⇒ 180°)
$6x + 3y = 180$
$2x + y = 60$ $\quad y = 60 - 2x$

$\angle P + \angle R + \angle PSR = 180$ ($\angle$s in $\triangle$ sum to 180)
$45 + 2y + 5x = 180$
$5x + 2y = 135$
$5x + 2(60 - 2x) = 135$
$5x + 120 - 4x = 135$
$x = 15$

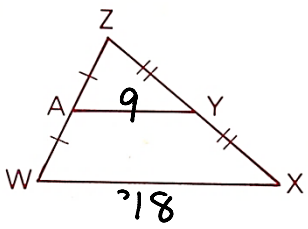
$y = 60 - 2(15)$
$y = 30$

Find $m\angle PST = x + 3y$. Subst $15 + 3(30)$, $15 + 90$, $105°$

Classwork

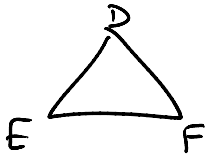
All of the following exercises must be completed and handed in before the class ends.

7 In the diagram as marked, if WX = 18, find AY.



MIDLINE

12 In △DEF, the sum of the measures of ∠D and ∠E is 110. The sum of the measures of ∠E and ∠F is 150. Find the sum of the measures of ∠D and ∠F.



$D+E+F=180$ $D+E=110$

$E+F=150$

$110+F=180$

$F=70$

$D+150=180$

$D=30$

$D+F=100$