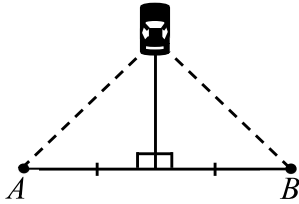
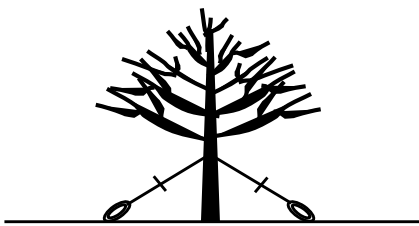


1.) **Theorem:** If a point is on the perpendicular bisector of a segment, then the point is equidistant from the endpoints of the segment.



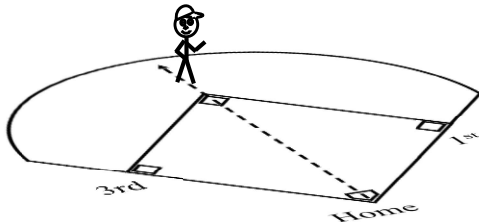
What conclusion can you make about the car's distance from point A and point B ?

2.) **Theorem:** If a point is equidistant from the endpoints of a segment, then the point is on the perpendicular bisector of the segment.



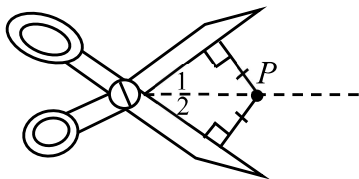
“Guy wires” are often used to stabilize young trees. If the guy wires in the picture have the same length, what conclusions can you make about the tree's relationship with the ground and the base of tree's distance from the anchor points?

3.) **Theorem:** If a point is on the bisector of an angle, then it is equidistant from the sides of the angle.



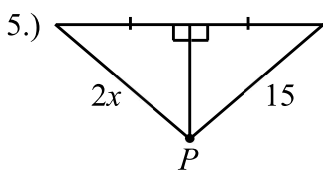
If a baseball player is standing on a ray that bisects the angle formed by 3rd base, home plate, and 1st base, what can you conclude about the player's distance from the sides of the angles?

4.) **Theorem:** If a point in the interior of an angle is equidistant from the sides of the angle, then the point lies on the bisector of the angle.

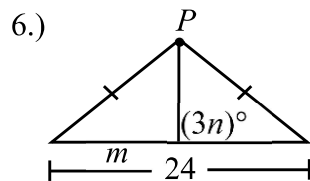


If point P is equidistant from the blades of the scissors, what conclusion can you make about $\angle 1$ and $\angle 2$?

Find the value of the indicated variable.

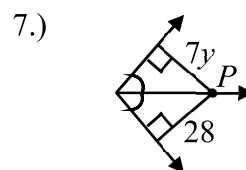


$x =$ _____

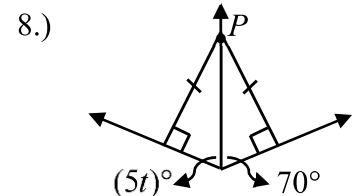


$m =$ _____

$n =$ _____

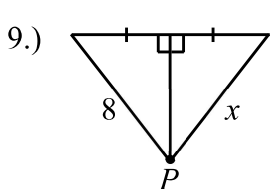


$y =$ _____

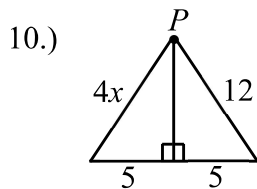


$t =$ _____

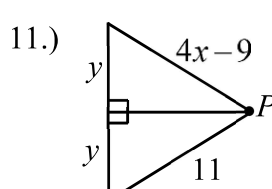
Find the value of x . Each solution appears once in the solution bank below.



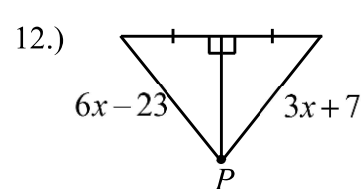
$x =$ _____



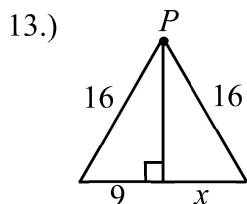
$x =$ _____



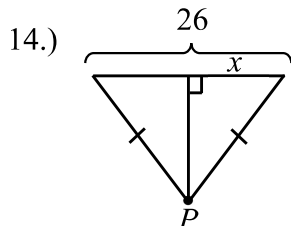
$x =$ _____



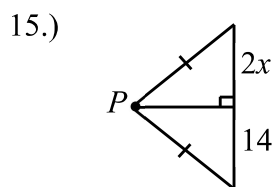
$x =$ _____



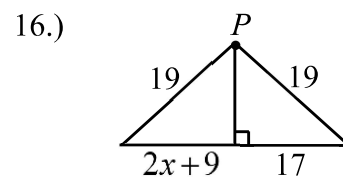
$x =$ _____



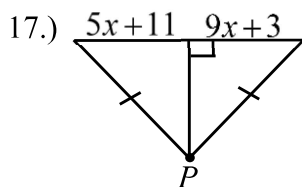
$x =$ _____



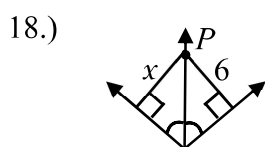
$x =$ _____



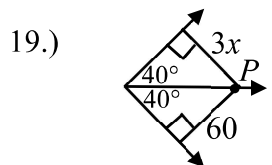
$x =$ _____



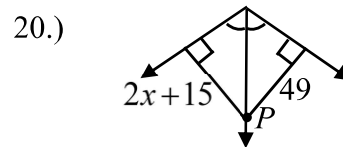
$x =$ _____



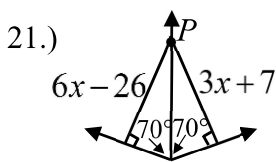
$x =$ _____



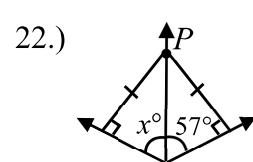
$x =$ _____



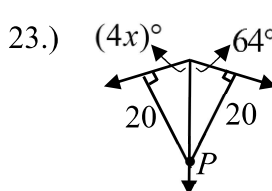
$x =$ _____



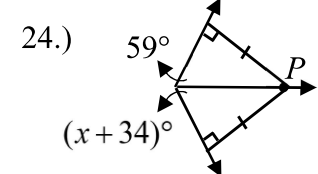
$x =$ _____



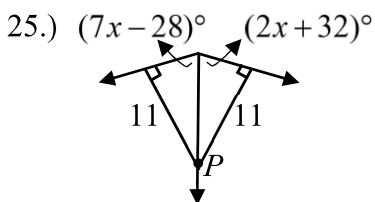
$x =$ _____



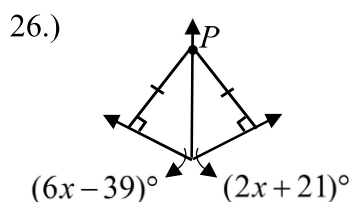
$x =$ _____



$x =$ _____



$x =$ _____



$x =$ _____

Optional! Just for fun, use these solutions to "color by number" the picture!

$x = 9$ red	$x = 6$ light green	$x = 12$ yellow	$x = 7$ dark blue	$x = 16$ orange	$x = 3$ yellow
$x = 4$ dark green	$x = 11$ red	$x = 8$ dark blue	$x = 25$ dark green	$x = 10$ light green	$x = 2$ light blue
$x = 57$ brown	$x = 5$ light green	$x = 20$ red	$x = 13$ dark green	$x = 15$ dark blue	$x = 17$ yellow

