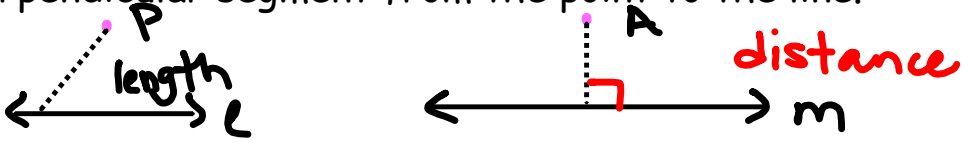
5.6 Angle Bisectors and Perpendicular Bisectors

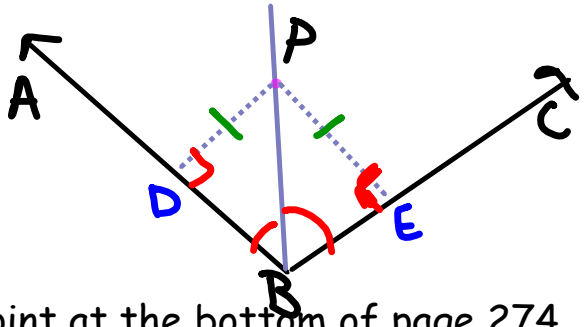
Objective: Use angle bisectors and perpendicular bisectors

The <u>distance from a point to a line</u> is measured by the length of the perpendicular segment from the point to the line.



When a point is the same distance from one line as it is from another line, the point is <u>equidistant</u> from the two lines.

Angle Bisector Theorem: If a point is on the bisector of an angle, then it is equidistant from the two sides of the angle.



look for 2 rainbow marks
look for right angles
$PD \cong PE$

Checkpoint at the bottom of page 274. # 1 and 2 only.

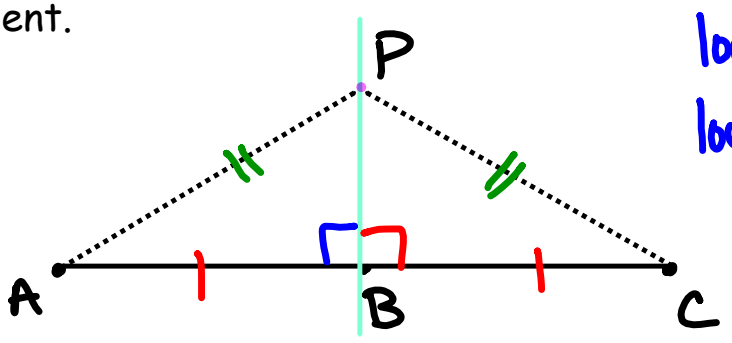
1. $2x + 1 = x + 3$
$-x \quad -x$
$x + 1 = 3$
$-1 \quad -1$
$x = 2$

$FH = 2 + 3 = 5$

2. $4x = x + 15$
$-x \quad -x$
$\frac{3x}{3} = \frac{15}{3}$
$x = 5$

$MK = 5 + 15 = 20$

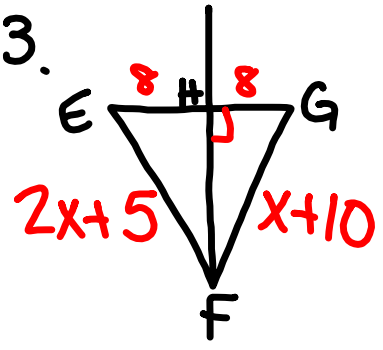
Perpendicular Bisector Theorem: If a point is on the perpendicular bisector of a segment, then it is equidistant from the endpoints of the segment.



look for right angle
look for tick marks
$AP \cong CP$

Checkpoint at the bottom of page 274. # 3

3.



$2x+5 = x+10$
$-x \quad -x$
$x+5 = 10$
$-5 \quad -5$
$x = 5$

$EF = 2(5)+5 = 15$

Name

5.6

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Notes 5.7