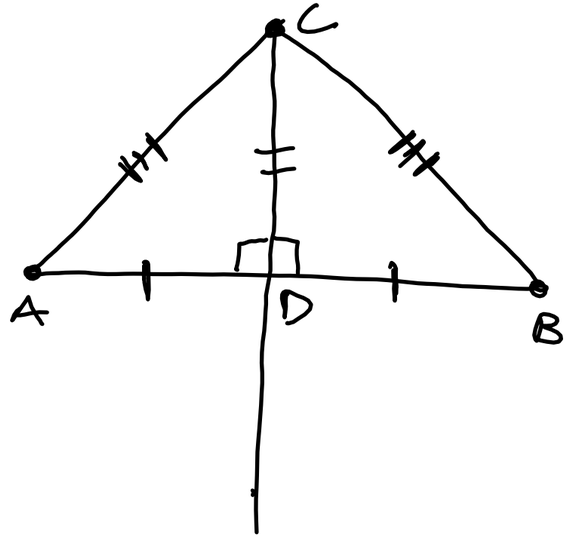
Perpendicular/Angle Bisectors

- Perpendicular bisectors



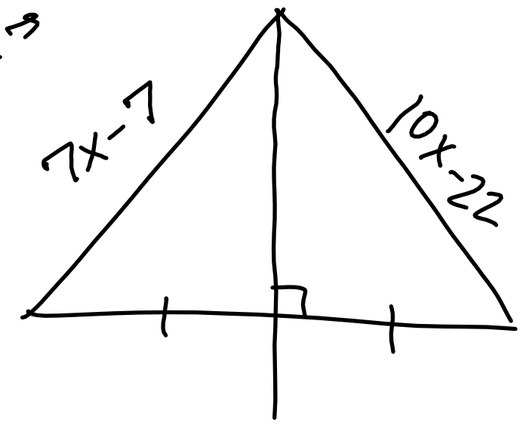
$\triangle ADC \cong \triangle BDC$ by SAS

↳ $\overline{AC} \cong \overline{BC}$ by CPCTC

↓

Points on perpendicular bisector are equidistant from endpoints of segment

EX →



$7x - 7 = 10x - 22$

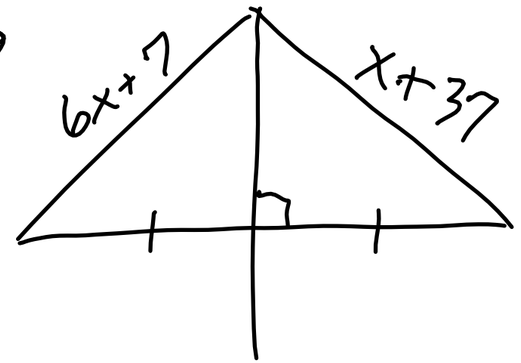
$-7x \quad -7x$

$-7 = 3x$

$15 = 3x$

$x = 5$

EX →

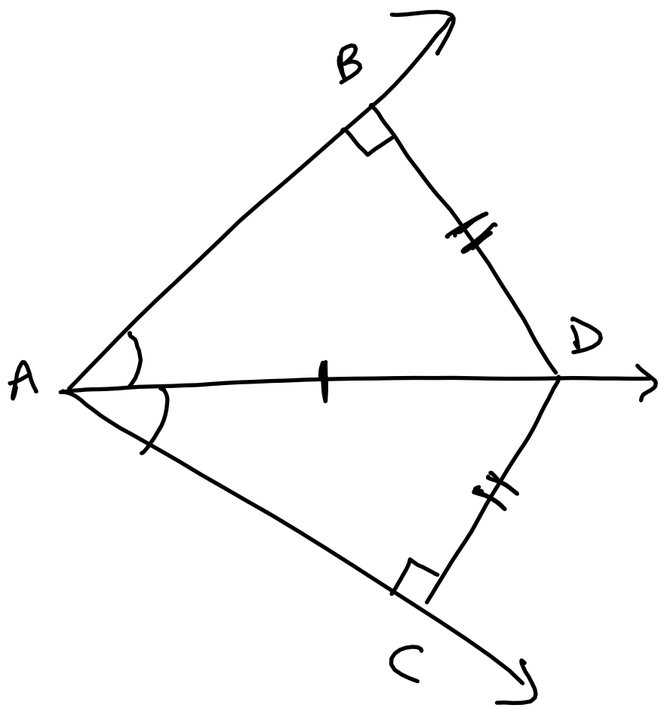


$6x + 7 = x + 37$

$5x = 30$

$x = 6$

- Angle bisectors



$\triangle BAD \cong \triangle CAD$ by AAS

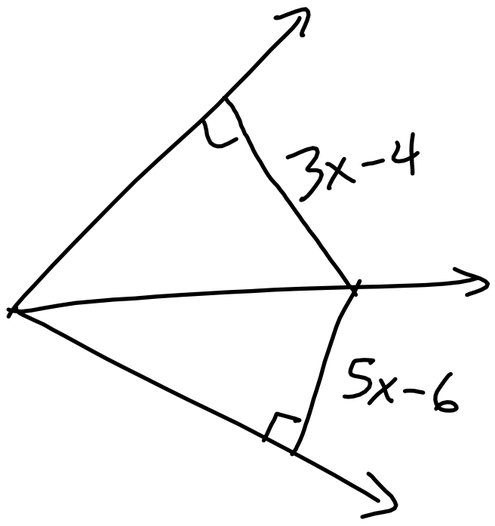
↳ $\overline{BD} \cong \overline{CD}$ by CPCTC

↓

Point on angle bisector is

<u>equidistant</u> to sides of angle

EX →

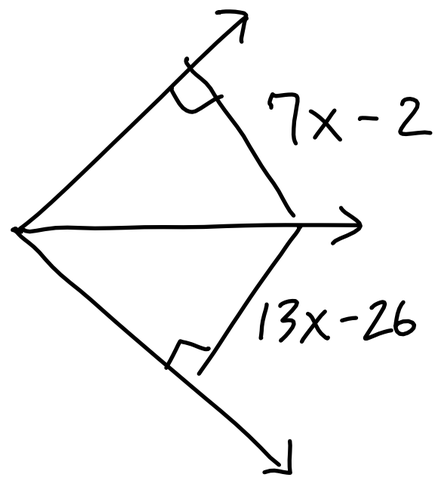


$3x-4=5x-6$

$2=2x$

$1=x$

EX →



$13x-26=7x-2$

$6x=24$

$x=4$

HW: p. 296 → 6-10, 12-22, 29-31, 39, 40