


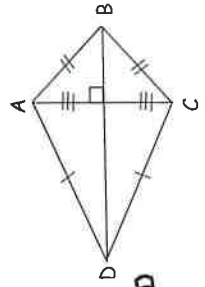
Geometry

Kites





Kites

- A kite is a quadrilateral with two pairs of consecutive sides that are congruent, but opposite sides are not congruent.
- The diagonals are perpendicular
- Exactly one diagonal is bisected
- Exactly one pair of opposite angles are congruent and exactly one pair of opposite angles are bisected (not the same pair)
- Like other quadrilaterals, the sum of the interior angles is 360.





$\angle DAB \cong \angle DCB$
 $\angle ADC$ and $\angle ABC$ are bisected
 (proven by SSS or HL, CPCTC)

$\angle A = 130$
 $\angle B = 2y + 10$
 $\angle C = 6x + 10$
 $\angle D = y$
 Find x and y

$y + 2y + 10 = 100$
 $3y + 10 = 100$
 $3y = 90$
 $y = 30$

$6x + 10 = 130$
 $6x = 120$
 $x = 20$


$AB = 65$
 $AD = 6y - 2$
 $BC = 5x + 5$
 $DC = 70$
 $\angle D = 40^\circ$
 Find x, y, AC, and DB.
 Round to the tenth.

$6y - 2 = 65$
 $6y = 67$
 $y = 11.166...$
 $y \approx 11.2$

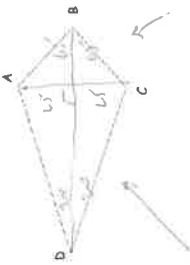
$5x + 5 = 65$
 $5x = 60$
 $x = 12$

$BD = 65.8$
 $+ 69.1$
 134.9

$AC = 239.2 = 47.8$



$AC = 50$
 $\angle D = 40^\circ$
 $\angle B = 130^\circ$
 Find the perimeter of
 Kite ABCD.



$$\sin 20^\circ = \frac{25}{x}$$

$$73.1$$

$$\sin 65^\circ = \frac{25}{x}$$

$$37.6$$

$$73.1$$

$$+ 27.6$$

$$\hline$$

$$100.7$$

$\times 2$

Perimeter

$$= 201.4$$

ADD

Find $\angle BAC$
 $= 25^\circ$

Find $\angle DAC = 70^\circ$

