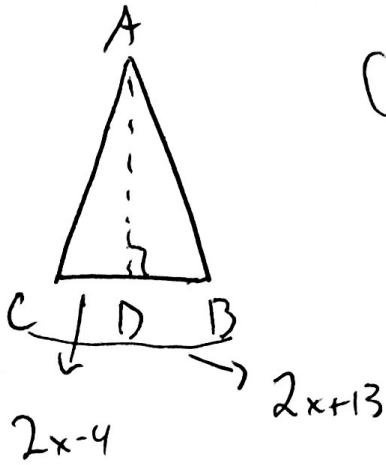


Geo HW 3-5 Ans

1



(alt of isos Δ bisects base)

$$2(2x-4) = 2x+13$$

$$4x-8 = 2x+13$$

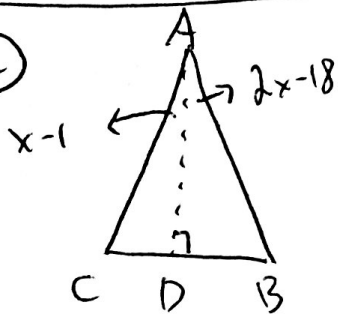
$$2x = 21$$

$$x = 10.5$$

$DB = CD$ (bisector creates 2 equal parts)

$$2(10.5) - 4 = \boxed{17}$$

2



(alt of isos Δ bisects vertex \angle)

$$x-1 = 2x-18$$

$$x = 17$$

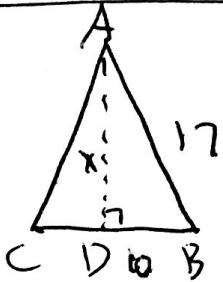
$$m\angle CAD = 17-1 = \boxed{16^\circ}$$

$$m\angle CAB = 2(16) = \boxed{32^\circ}$$

$$\frac{180 - 32}{2} = m\angle C + D$$

$$\boxed{m\angle C = 74^\circ}$$

3



$A = \frac{1}{2}bh \rightarrow$ need h (AD)

$$10^2 + x^2 = 17^2 \text{ (rt } \Delta \text{ / Pythag Theorem)}$$

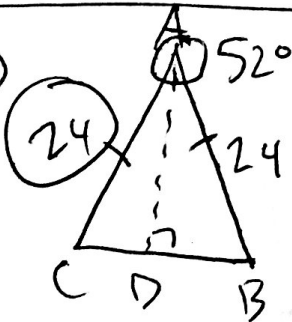
$$\sqrt{x^2} = \sqrt{189}$$

$$x = \sqrt{189}$$

$$A = \frac{1}{2}(20)(\sqrt{189})$$

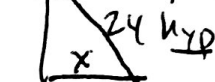
$$\boxed{A = 137.5}$$

4



need CB \rightarrow use trig

$$52/2 = 26^\circ$$



$$\sin 26 = \frac{x}{24}$$

$$x = 10.52 \dots$$

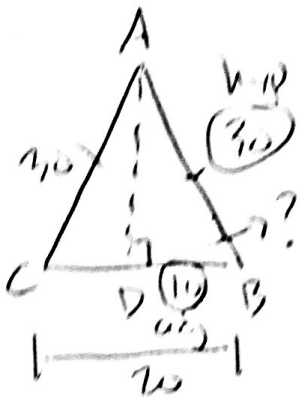
$$CB = 2(10.52 \dots)$$

$$CB = 21.04 \dots$$

$$\text{Perim} = 24 + 24 + 21.04 \dots$$

$$\boxed{= 69.04}$$

(5)

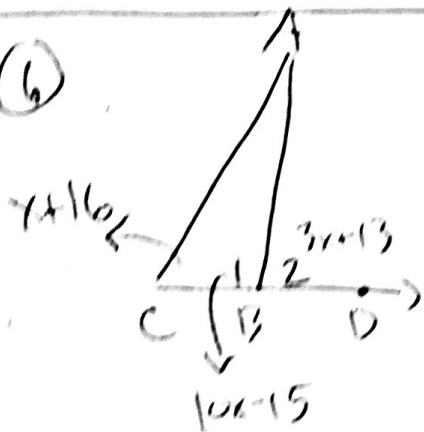


$$\cos ? = \frac{10}{30}$$

$$\cos^{-1}(\cos) (10/30)$$

$$\boxed{m\angle B = 70.5^\circ}$$

(6)



$$10x - 15 + 3x + 13 = 180 \text{ (}\angle 1, \angle 2 \text{ lin pair, supp)}$$

$$13x - 2 = 180$$

$$13x = 182$$

$$x = 14$$

$$m\angle C = 10(14) - 15 = 125^\circ$$

$$m\angle C = 14 + 16 = 30^\circ$$

$$m\angle A = 180 - (125 + 30) = 25^\circ$$

(7)

$\angle A$ smallest \angle so a or \overline{CB} would be the smallest side b/c smallest side is opp smallest \angle .

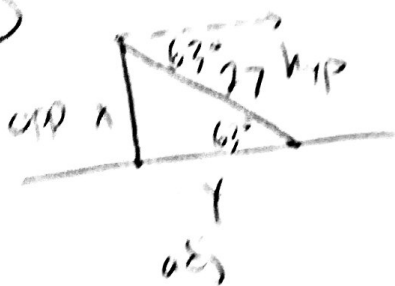
(8)



$$5^2 + x^2 = 12^2$$

$$\boxed{x = \sqrt{119}}$$

(9)



$$\sin 63 = \frac{x}{27}$$

$$\boxed{x = 24.06}$$

$$\cos(63) = \frac{y}{27}$$

$$\boxed{y = 12.26}$$