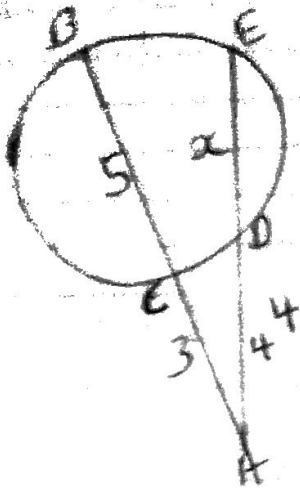


1



$$AC \cdot AB = AD \cdot AE$$

$$3 \times 8 = 4 \times (4 + x)$$

$$24 = 16 + 4x$$

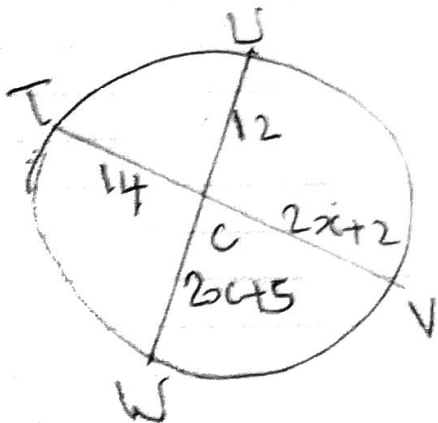
$$4x = 24 - 16$$

$$4x = 8$$

$$x = \frac{8}{4}$$

$$x = \underline{\underline{2}}$$

2



Find UW

$$12(2x + 5) = 14(2x + 2)$$

$$24x + 60 = 28x + 28$$

$$28x - 24x = 60 - 28$$

$$4x = 32$$

$$x = \frac{32}{4}$$

$$x = 8$$

$$UW = 2(8) + 5 + 12$$

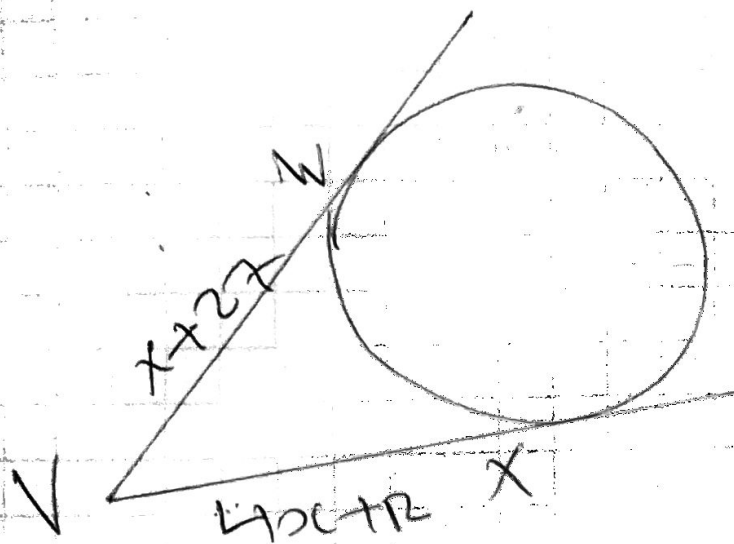
$$= 16 + 5 + 12$$

$$= \underline{\underline{33}}$$

3

$$\begin{aligned}
 TV &= 2(8) + 2 + 14 \\
 &= 16 + 2 + 14 \\
 &= 32
 \end{aligned}$$

LB



$$VW = x + 27$$

$$VX = 4x + 12$$

Find the length

$$VX = VW$$

$$4x + 12 = x + 27$$

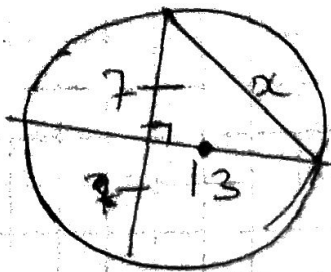
$$4x - x = 27 - 12$$

$$3x = 15$$

$$x = \frac{15}{3}$$

$$x = 5$$

5



Find x (Round to the nearest tenth place)

$$x^2 = 7^2 + 13^2$$

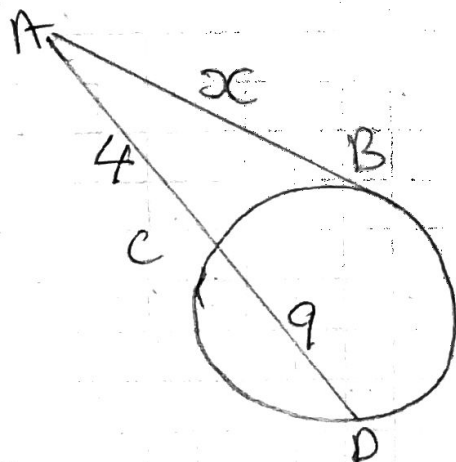
$$x^2 = 49 + 169$$

$$x^2 = 218$$

$$x = \sqrt{218}$$

$$= 14.76$$

6



$$AB = x, AC = 4, CD = 9$$

Find x (round off to the nearest tenth)

$$(AB)^2 = AC \cdot AD$$

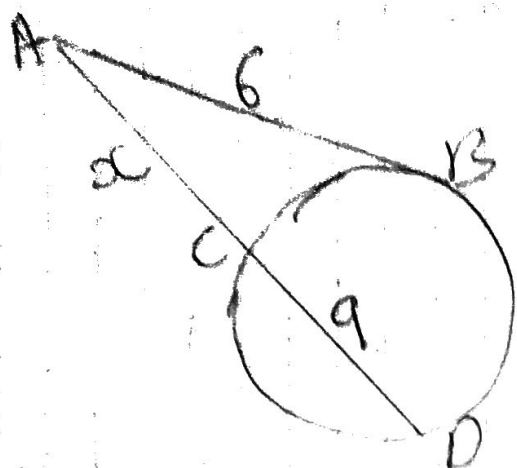
$$x^2 = 4^2 \times 13$$

$$x^2 = 52$$

$$x = \sqrt{52}$$

$$= 7.21$$

$$\Rightarrow AD = 4 + 9 = \underline{\underline{13}}$$



If $AB = 6$, $AC = x$, $CD = 9$

Find AD

$$(AB)^2 = AC \cdot AD$$

$$6^2 = x(x+9)$$

$$36 = x^2 + 9x$$

$x^2 + 9x - 36 = 0 \Rightarrow$ look for two numbers when you multiply them you get -36 and you add them together 9

The two numbers are 12 and -3

$$x^2 - 3x + 12x - 36 = 0$$

$$x(x-3) + 12(x-3) = 0$$

$$(x+12)(x-3) = 0$$

$$x+12 = 0$$

$$x = -12 \quad \text{or}$$

$$x-3 = 0$$

$$x = 3$$

$$x = 3 \text{ or } -12$$

$$AD = 3 + 9 = 12 \Rightarrow \text{we take the positive value for length}$$