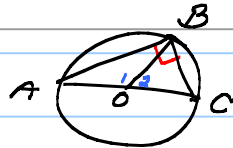


2.1:14  $\overline{AB} \perp \overline{BC} \Rightarrow \angle ABC = 90^\circ$



$\angle ABO + \angle OBC = \angle ABC$

$2x + y + 6x + 8 = 90$

$8x + y = 82$

$\angle AOB + \angle BOC = \angle AOC$

$23y + 90 + 4x + 4 = 180$

$4x + 23y = 86$

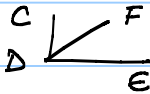
$(-2) \begin{cases} 8x + y = 82 \\ 4x + 23y = 86 \end{cases}$  Solve by elimination or substitution

$\begin{cases} 8x + y = 82 \\ -8x - 46y = -172 \end{cases}$   
 $\hline$   
 $-45y = -90$   
 $y = 2$

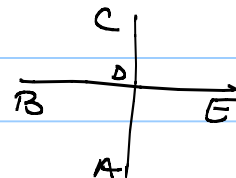
$\rightarrow 8x + 2 = 82$   $\therefore$  therefore  
 $8x = 80$   $\therefore$  because  
 $x = 10$   
 $\therefore \{ (10, 2) \}$

Then  $m\angle ABD = 2x + y = 20 + 2 = 22^\circ$

2.2:7  $G: \overleftrightarrow{CD} \perp \overleftrightarrow{DE}$

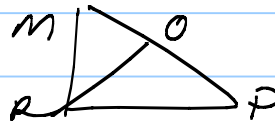


P:  $\angle CDF$  comp  $\angle FDE$



Statements	Reasons
1. $\overleftrightarrow{CD} \perp \overleftrightarrow{DE}$	1. GIVEN
2. $\angle CDE$ rt $\angle$	2. $\perp \Rightarrow$ rt $\angle$
3. $\angle CDF$ comp $\angle FDE$	3. rt $\angle \Rightarrow$ comp $\angle$ s

2.2:9  $G: \angle MRO$  comp  $\angle PRO$



P:  $\angle MRP$  rt  $\angle$

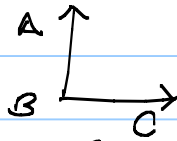
Statements	Reasons
1. $\angle MRO$ comp $\angle PRO$	1. Given
2. $\angle MRP$ rt $\angle$	2. comp $\angle$ s $\Rightarrow$ rt $\angle$

2.2: 13-14, 16, 21-25

2.3: 1-7

Setup & Solve

23: ① G:  $\overleftrightarrow{AB} \perp \overleftrightarrow{BC}$   
P:  $\angle ABC \cong \angle L$



Statements

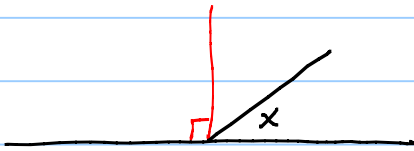
- $\overleftrightarrow{AB} \perp \overleftrightarrow{BC}$
- $\angle ABC \cong \angle L$

Reasons

- Given
- $\perp \Rightarrow \cong \angle$

p71

2.2: 18



$\angle: x$

Supp:  $180 - x$

Comp:  $90 - x$

15

$$180 - x = 7x + 4$$

$$176 = 8x$$

$$22 = x$$

180

- 22

158°

19

$$90 - x + \frac{1}{2}x = 72$$

$$90 - \frac{1}{2}x = 72$$

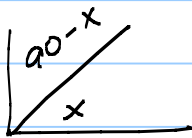
$$18 = \frac{1}{2}x$$

$$36 = x$$

$\angle = 36$

$C = 54$

$\frac{1}{2}C = \boxed{27^\circ}$



$$\begin{aligned} \angle &= x & S &= 180 - x \\ C &= 90 - x \end{aligned}$$

22. Five times comp  $\angle$  less twice  $\angle$ 's supp is 40°

$$5(90 - x) - 2(180 - x) = 40$$

$$5(90) - 5x - 4(90) + 2x = 40$$

$$90 - 3x = 40$$

$$\frac{50}{3} = \frac{3x}{3}$$

$$16\frac{2}{3} = x$$

$$\begin{array}{r} 180 \\ -16\frac{2}{3} \\ \hline 163\frac{1}{3} \end{array}$$

25. supp is 60 less than 2 supp of comp

$$180 - x = 2[180 - (90 - x)] - 60$$