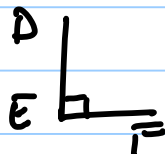


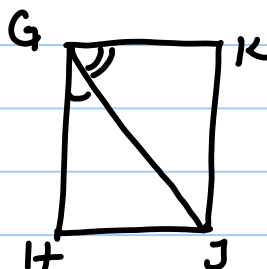
12]  $\angle DEF = 90^\circ$
 trisect $\rightarrow 30^\circ$
 bis $\rightarrow 15^\circ$
 tri $\rightarrow 5^\circ$

$$\overline{KJ} \perp \overline{HJ}$$

13] G: $\angle H G J = 37^\circ 20'$
 $\angle K G J = 52^\circ 40'$

C: $\angle H G K \cong \angle H J K$

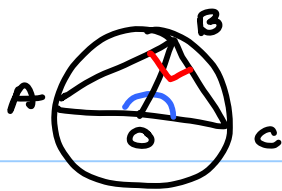
Statements



Reasons

- | | |
|---|--|
| 1. $\angle H G J = 37^\circ 20'$
$\angle K G J = 52^\circ 40'$ | 1. Given |
| 2. $\angle H G K = 90^\circ$ | 2. Add (1) |
| • 3. $\angle H G K$ rt \angle | 3. $90^\circ \Rightarrow$ rt \angle (2) |
| 4. $\overline{KJ} \perp \overline{HJ}$ | 4. Given |
| • 5. $\angle K J H$ rt \angle | 5. $\perp \Rightarrow$ rt \angle (4) |
| 6. $\angle H G K \cong \angle K J H$ | 6. rt \angle s $\Rightarrow \cong \angle$ s (3, 5) |

14. $\overline{AB} \perp \overline{BC}$
 $\angle ABC = 90^\circ$



$\angle AOC = 180^\circ$

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

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

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

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

$8x + y = 82$

$4x + 23y = 86$

$$\begin{cases} 8x + y = 82 \\ 4x + 23y = 86 \end{cases}$$

Solve systems by elimination or substitution

$8x + y = 82 \Rightarrow y = -8x + 82$

$8(20+3)$
 $160+24$

$4x + 23(-8x + 82) = 86$

$4x - 184x + 1886 = 86$

$-180x = -1800$

$x = 10$

$(20+3)(80+2)$

$1600 + 40 + 240 + 6$

$1840 + 46$

1886

then use $x = 10$ to find y

$8(10) + y = 82$

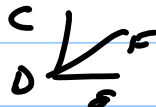
$y = 2$

Sol $\{ (10, 2) \}$

find $m \angle ABO = 2x + y = 22^\circ$

22:7 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

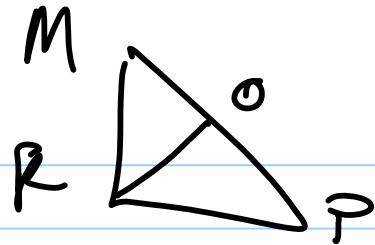
2. $\perp \rightarrow$ rt \angle

3. $\angle CDF$ comp $\angle FDE$

3. rt $\angle \rightarrow$ comp \angle s

Q.2:9] G: $\angle MRO \text{ comp } \angle PRO$

P: $\angle MRP \text{ rt } \angle$



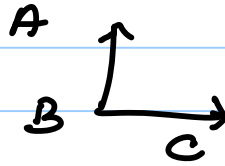
Statements

1. $\angle MRO \text{ comp } \angle PRO$
2. $\angle MRP \text{ rt } \angle$

Reasons

1. Given
2. $\text{comp} \Rightarrow \text{rt } \angle$

Q.3:1 G: $\overleftrightarrow{AB} \perp \overleftrightarrow{BC}$
C: $\angle ABC \text{ rt } \angle$

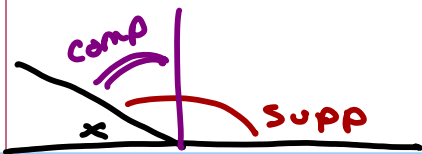


Statements

1. $\overleftrightarrow{AB} \perp \overleftrightarrow{BC}$
2. $\angle ABC \text{ rt } \angle$

Reasons

1. GIVEN
2. $\perp \Rightarrow \text{rt } \angle$



$$\angle : x$$

$$22$$

$$\text{comp} : 90 - x$$

$$\text{supp} : 180 - x$$

$$158^\circ$$

18. Larger of two supps exceeds 7 times smaller by 4.
- $$180 - x = 7(x) + 4$$

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

$$176 = 8x$$

$$22 = x$$

19. One comp + $\frac{1}{2}$ other yields 72°

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

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

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

$$36 = x$$

$$\begin{array}{l} \angle = x \\ C : 90 - x \end{array}$$

$$C : 90 - 36 = 54$$

$$\frac{1}{2}C : 54/2 = 27^\circ$$

$$x = \angle$$

22. 5 times comp less twice supp is 40

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

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

$$90 - 3x = 40$$

$$50 = 3x$$

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

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

$$180 \rightarrow 179\frac{2}{3}$$

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

$$163\frac{1}{3}^\circ$$

25. supp is 60 less than twice supp of comp
 $180-x = 2[180-(90-x)] - 60$

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