Name: _____

# 2.REV.1 - LESSONS 2.2 – 2.5

Past due on _____ Period _____

PLEASE SHOW ALL WORK ON A SEPARATE SHEET OF PAPER.

## LESSON 2.2

1. Given: $\angle A$ and $\angle B$ are complementary. The measure of $\angle B$ is three times the measure of $\angle A$. Write and solve an equation that represents this situation. Find $m\angle A$ and $m\angle B$.

2. Given: $\angle C$ and $\angle D$ are supplementary. The measure of $\angle D$ is eight times the measure of $\angle C$. Write and solve an equation that represents this situation. Find $m\angle C$ and $m\angle D$.

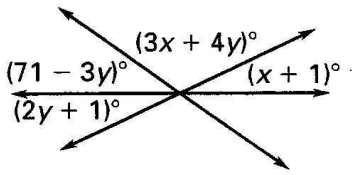
3. One of two complementary angles has a measure that is six more than twice the other's. Write and solve an equation that represents this situation. Find the measure of both angles.

4. The measure of the supplement of an angle is five times that of the angle's complement. Write and solve an equation that represents this situation. Find the measure of the complement.

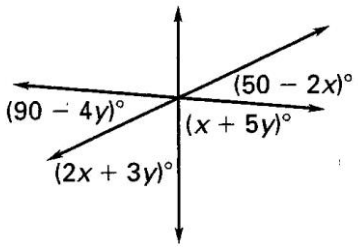
5. The measure of the supplement of an angle exceeds twice the measure of the complement of the angle by 20. Write and solve an equation that represents this situation. Find the measure of the complement.

Use the relationships between linear pairs, and vertical angles to write and solve a system of equations to find the values of $x$ and $y$.

6.



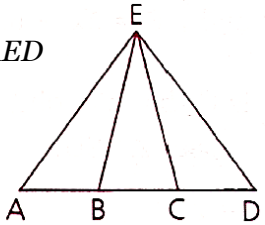

7.



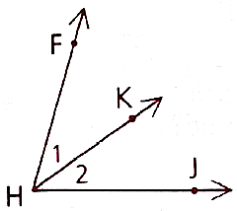

## LESSONS 2.4 & 2.5

8. Given: $Y$ is the midpoint of $\overline{XZ}$
What can you conclude?

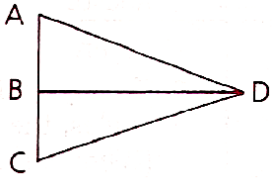

9. Given: $\overrightarrow{EB}$ & $\overrightarrow{EC}$ trisect $\angle AED$
What can you conclude?




10. Given: $\overrightarrow{HK}$ bisects $\angle FHJ$
What can you conclude?

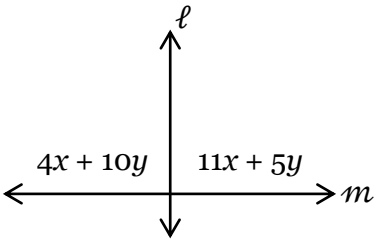



11. Given: $\overline{AC} \perp \overline{DB}$
What can you conclude?



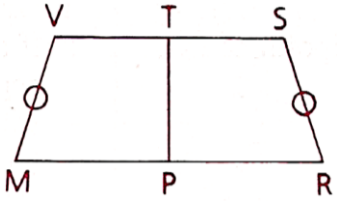
12. Given: $\ell \perp m$

Set up and solve a system of equations to find the values of $x$ and $y$.



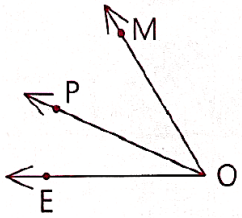

13. Given: $\overleftrightarrow{TP}$ bisects $\overline{VS}$ & $\overline{MR}$
$\overline{VM} \cong \overline{SR}$
$MP = 9$
$VT = 6$
Perimeter of $MRSV = 62$

Find: $VM$

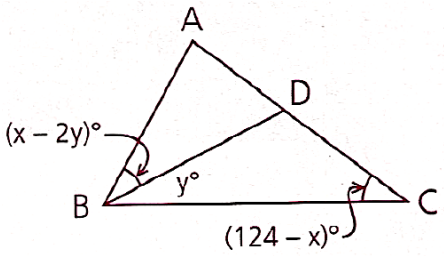



14. Given: $\overrightarrow{OP}$ bisects $\angle MOE$
$m\angle MOP = 10 - 3x$
$m\angle POE = x^2 - 6x$

Find: $m\angle MOE$




15. Given: $\overrightarrow{BD}$ bisects $\angle ABC$ & $\angle DBC \cong \angle C$
Use a system of equations to solve for $x$ and $y$.
Then find $m\angle C$.




16. Given: $\overline{XY} \perp \overline{YW}$ & $\overline{AB} \perp \overline{BC}$
Use a system of equations to solve for $x$ and $y$.
Do the values of $x$ and $y$ make sense? Explain your reasoning.