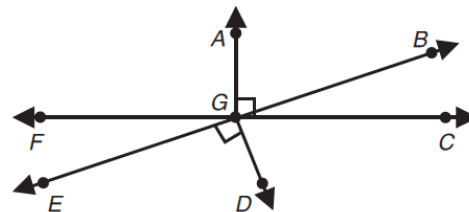


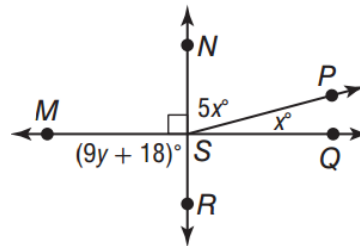
## 2.2 – ANGLE PAIR RELATIONSHIPS

1. Identify each of the following in the figure.
  - a. Name a pair of complementary angles.

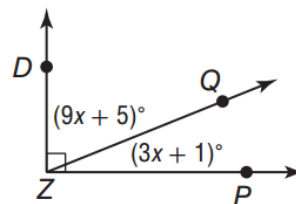


- b. Name a pair of angles that form linear pairs.
  - c. Name a pair of vertical angles.
  - d. Name a pair of supplementary angles that do not form a linear pair.

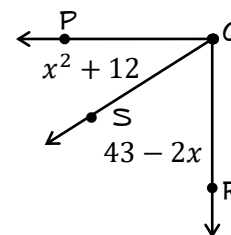
2. Given:  $\overline{NR} \perp \overline{MQ}$  Set up and solve an equation to find the values of  $x$  and  $y$ . Then find  $m\angle MSN$ .



3. Find the value of  $x$  so that  $\overline{DZ} \perp \overline{ZP}$ . Then find  $m\angle PZO$ .

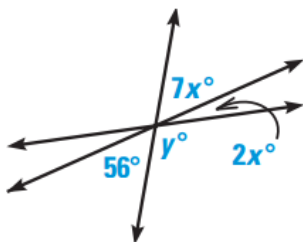


4. Given:  $\overline{PQ} \perp \overline{QR}$  Set up and solve an equation to find the value of  $x$  that makes sense. Then find  $m\angle PQS$  and  $m\angle RQS$ .

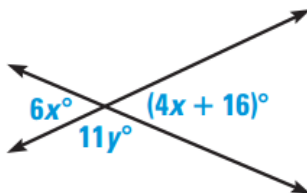


Use vertical and linear pair relationships to set up and solve equations to find the values of  $x$  and  $y$ .

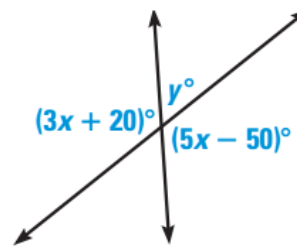
5.



6.



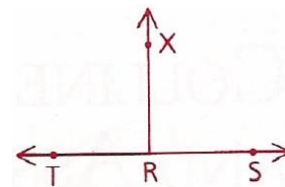
7.



8. **GIVEN:**  $\angle TRX$  &  $\angle XRS$  are supplementary,  $\angle TRX$  is a right angle

$$m\angle TRS = 2x + 5y \text{ \& } m\angle XRS = 3x + 3y$$

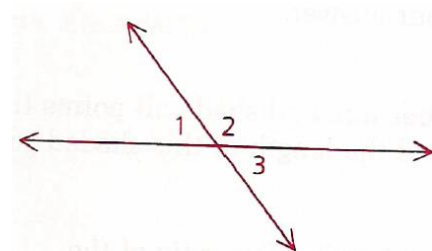
Use a system of equations to solve for  $x$  and  $y$ .



9. **GIVEN:**  $m\angle 1 = 2x + 40$ ,  $m\angle 2 = 2y + 40$ , &  $m\angle 3 = x + 2y$

Use a system of equations to solve for  $x$  and  $y$ .

Then find:  $m\angle 1$ ,  $m\angle 2$ , &  $m\angle 3$



10. One of two complementary angles is twice the other. Find the measures of the two angles.
11. One of two supplementary angles is  $70^\circ$  greater than the second. Find the measures of the two angles.
12. Two supplementary angles are in the ratio 11:7. Find the measures of the two angles.
13. The supplement of an angle is four times the complement of the angle. Find the measure of the complement.
14. Five times the complement of an angle less twice the angle's supplement is  $40^\circ$ . Find the measure of the supplement.
15. The measure of the supplement of an angle is  $30^\circ$  less than five times the measure of the complement. Find the measure of the angle.