



## DIVISION OF GEN. TRIAS CITY

### Project ISuLAT – ACTIVITY SHEETS in MATHEMATICS 8 (Intensified Support to Learning Alternatives Through Activity Sheets)

#### Grade 8 - Week 5

Name: \_\_\_\_\_ Gr. & Sec.: \_\_\_\_\_

Name of Teacher: \_\_\_\_\_ Score: \_\_\_\_\_

#### **MASTER ME**

Most Essential Learning Competency: Determines the conditions under which lines and segments are parallel or perpendicular.

At the end of this activity sheet, you are expected to:

- differentiate parallel and perpendicular lines;
- prove theorems and certain geometric conditions for parallel and perpendicular lines; and
- apply conditions for parallel and perpendicular lines in solving related geometric problems.

**Parallel lines** - lines that lie on the same plane and have no point in common. They will never intersect.

**Perpendicular lines** - two lines that meet to form congruent adjacent angles. They form right angles.

#### **ACT ON**

Answer the problems below. Write your answer on the space provided.

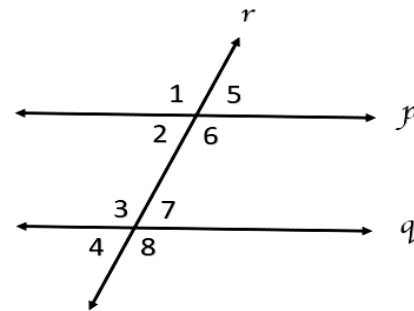
I. Lines  $p$  and  $q$  are cut by transversal  $r$ . Find the value of  $x$  that makes  $p \parallel q$ .

a.  $\angle 2$  and  $\angle 7$  are alternate interior angles,

$$m \angle 2 = 5x - 11 \text{ and } m \angle 7 = 3x + 7. \quad x = \underline{\hspace{2cm}}$$

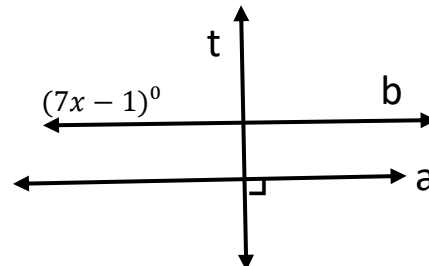
b.  $\angle 1$  and  $\angle 4$  are same-side exterior angles,

$$m \angle 1 = 6x + 3 \text{ and } m \angle 4 = 4x + 7. \quad x = \underline{\hspace{2cm}}$$



II. Lines  $a$  and  $b$  are cut by a transversal  $t$ .

Find the value of  $x$  that makes  $a \perp b$ .





**DIVISION OF GEN. TRIAS CITY**

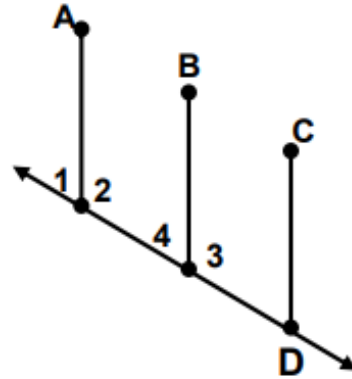
**Project ISuLAT – ACTIVITY SHEETS in MATHEMATICS 8**  
**(Intensified Support to Learning Alternatives Through Activity Sheets)**

**TRY MORE**

Two electric posts along the road in General Trias were destroyed by the storm. To assure that these posts will stand parallel to each other correctly, the illustration on the right was made.

Make each statement true by filling the blanks with the correct answers based on the given figure.

- A.  $\angle 2 \cong$  \_\_\_\_\_
- B. If  $\angle 2 = 78^\circ$  then  $\angle 1 =$  \_\_\_\_\_
- C. If  $\angle 2 = (4x - 5)^\circ$  and  $\angle 4 = (2x + 15)^\circ$ , then  $x =$  \_\_\_\_\_.
- D.  $m\angle 3 =$  \_\_\_\_\_

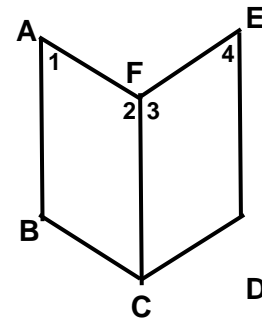


**HARNESS SKILL**

Consider the following problem, then prove.

**Given:**  $\angle 1$  and  $\angle 2$  are supplementary angles and  
 $\angle 3$  and  $\angle 4$  are supplementary angles

**Prove:**  $\underline{AB} \parallel \underline{ED}$



**Proof:**

Statements	Reason
1. $\angle 1$ and $\angle 2$ are supplementary angles	1.
2. $\underline{AB} \parallel \underline{FC}$	2.
3. $\angle 3$ and $\angle 4$ are supplementary angles	3.
4. $\underline{ED} \parallel \underline{FC}$	4.
5. $\underline{AB} \parallel \underline{ED}$	5.