Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

CC GEOMETRY TROICI

**MINI-LESSON #2: LINES AND ANGLES**

**TOPIC 1: DIRECTED LINE SEGMENTS**

*Definition:* A Directed Line Segments is a segment that has \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**ORDER MATTERS!!!**

$(x\_{1}+k\left(RUN\right), y\_{1}+k(RISE)$**)**

$$(x\_{1},y\_{1})=Coordinates ofFIRST point$$

$$k=\frac{FIRST \# of ratio}{TOTAL parts}$$

$$\frac{RISE}{RUN}=\frac{Y\_{2}-Y\_{1}}{X\_{2}-X\_{1}}$$

|  |  |
| --- | --- |
| **STEPS** | **EXAMPLE** |
| **STEP 1:** Graph and connect the directed line segment *(OPTIONAL)***STEP 2:** Identify the initial point $(x\_{1},y\_{1})$**STEP 3:** Identify the Dilation Scale Factor $(k)$$$\frac{WHICH POINT ARE YOU LOOKING FOR? \\_\\_\\_\\_\\_\\_}{HOW MANY TOTAL PARTS ARE THERE? \\_\\_\\_\\_\\_\\_}$$**STEP 4:** Identify the slope of the line segment $(\frac{RISE}{RUN})$**STEP 5:** Substitute into the following formula to find the coordinates of J:$$[x\_{1}+k\left(RUN\right), y\_{1}+k\left(RISE\right)]$$ | The coordinates of the endpoints of  are  and . Point *P* is on . Determine and state the coordinates of point *P*, such that  is . [The use of the set of axes below is optional.] |

**TOPIC 2: UNKOWN ANGLES**

|  |  |  |
| --- | --- | --- |
| **WORD** | **DEFINITION** | **DIAGRAM** |
| Supplementary Angles |  |  |
| Complementary Angles |  |  |
| Adjacent Angles |  |  |
| Vertical Angles |  |  |
| Linear Pairs |  |  |
| Angles at a Point |  |  |
| Corresponding Angles |  |  |
| Alternate Interior Angles |  |  |
| Same Side Interior Angles |  |  |
| Alternate Exterior Angles |  |  |
| Angles in a Triangle |  |  |
| Angles in a Quadrilateral  |  |  |

**TOPIC 3: LINES**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **SLOPE** | **MIDPOINT** | **DISTANCE** |
| **FORMULA** |  |  |  |
| **USED TO** |  |  |  |

Lines are **PARALLEL** if:

* Two lines \_\_\_\_\_\_\_\_\_\_\_\_ touch.
* Two lines have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ slopes.
* Alternate Interior Angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Corresponding Angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Same side interior angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lines are **PERPENDICULAR** if:

* Two lines have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ slopes.
* They form a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ angle.