

# Unit 1 Review Guide - Segment Relationships

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

**Goal 1: I can name lines, rays, segments, and planes.**

Use the figure below for Exercises 1–8. Note that  $\overleftrightarrow{RN}$  pierces the plane at  $N$ . It is not coplanar with  $V$ .

1a. Name two segments shown in the figure.

1b. What is the intersection of  $\overleftrightarrow{CM}$  and  $\overleftrightarrow{RN}$ ?

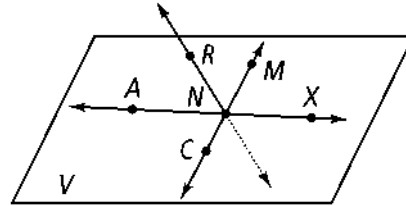
1c. Name three collinear points.

1d. What are two other ways to name plane  $V$ ?

1e. Are points  $R$ ,  $N$ ,  $M$ , and  $X$  coplanar?

1f. Name two rays shown in the figure.

1g. Name the pair of opposite rays with endpoint  $N$ .



Use the figure at the right for Exercises h-l.

**Name the intersection of each pair of planes or lines.**

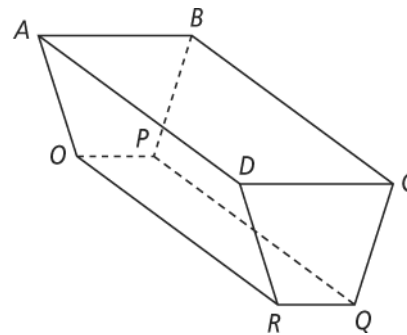
1h. planes  $ABP$  and  $BCD$

1i.  $\overleftrightarrow{RQ}$  and  $\overleftrightarrow{RO}$

1j. planes  $ADR$  and  $DCQ$

1k. planes  $BCD$  and  $BCQ$

1l.  $\overleftrightarrow{OP}$  and  $\overleftrightarrow{QP}$



**Name two planes that intersect in the given line using the figure at the right.**

1m.  $\overleftrightarrow{RO}$

1n.  $\overleftrightarrow{CQ}$

1o.  $\overleftrightarrow{DA}$

1p.  $\overleftrightarrow{BP}$

Postulate 1-4 states that any three noncollinear points lie in one plane.

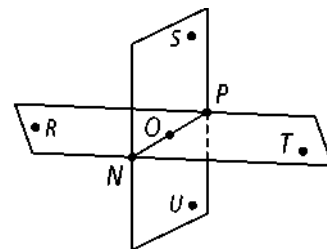
Find the plane that contains the first three points listed. Then determine whether the fourth point is in that plane. Write *coplanar* or *noncoplanar* to describe the points.

1q.  $P, T, R, N$

1r.  $P, O, S, N$

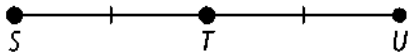
1s.  $T, R, N, U$

1t.  $P, O, R, S$



**Goal 2: I can define, recognize, and solve problems related to midpoint, segment addition, and perpendicular bisectors.**

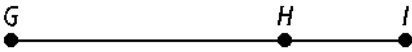
**2a.** Given:  $ST = 3x + 3$  and  $TU = 2x + 9$ .



a. What is the value of  $ST$ ?

b. What is the value of  $TU$ ?

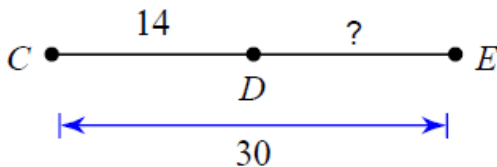
**2b.** Given:  $GH = 7y + 3$ ,  $HI = 3y - 5$ , and  $GI = 9y + 7$ .



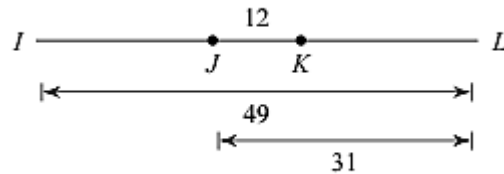
a. What is the value of  $y$ ?

b. Find  $GH$ ,  $HI$ , and  $GI$ .

**2c.** Find the missing segment lengths:



Find  $IK$



**Goal 3: I can solve problems using distance and midpoint relationships and formulas.**

Find: (a) the distance between the points to the nearest tenth.

(b) the coordinates of the midpoint of the segments with the given endpoints.

**3a.**  $A(2, -1)$ ,  $B(-4, 7)$

**3b.**  $R(-5, 2)$ ,  $S(2, 4)$

**3c.** Segment  $YX$  is drawn on a coordinate plane. If  $Y$  is plotted at  $(4, -8)$  and the midpoint is located at  $M(3, -5)$ , where is  $X$  located?