For questions 1 – 10, use a number or one of the following words to complete the sentences: **collinear, non-collinear, endpoint(s), perpendicular, parallel, vertex, capital, opposite rays**

1. To draw a line segment, I need exactly **2** points.
2. To name a line segment, I use the **endpts**
3. To name an angle, I must use **3** points. The **vertex** must be the 2nd point.
4. To name a ray, I use **2** points.
   The first point must be the **endpt**.
5. Points are named with **capital** letter(s).
6. Two rays which together form a straight line are called **Opp. Rays**.
7. Two lines that meet at 90° angles are called **⊥** lines.
8. Two lines that are in the same plane and never intersect are called **||** lines.
9. You need at least three **noncollinear** points to name a plane

For questions 10 – 17, use the diagram at the right. Please use the correct symbol for naming lines, rays, segments, and angles.

10. Name a line: **$\overleftrightarrow{AD}$**
11. Name 2 rays: **$\overrightarrow{GA}$** and **$\overrightarrow{GD}$**
12. Name 2-line segments: **$\overline{BG}$** and **$\overline{GE}$**
13. Name a right angle: **∠AGF**
14. Name a line perpendicular to $\overrightarrow{GF}$. **$\overleftrightarrow{AD}$**
15. Name 3 points that are collinear **A, G, and D**
16. Name 3 points that are non-collinear: **A, C and E**
17. Name a pair of opposite rays. **$\overrightarrow{GA}$** and **$\overrightarrow{GD}$**
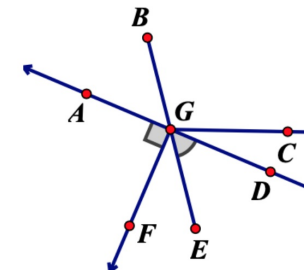

Chapter 1 and 2 Use the figure below for 1 to 8.
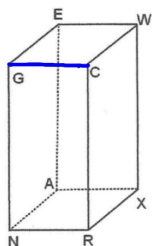
1. Name the intersection of planes WEG and CRX **$\overline{CW}$**
2. Name the intersection of $\overline{XA}$ & $\overline{NA}$ **•A**
3. Name a point that is coplanar with W, X, and E **•A**
4. Name a plane that is parallel to GNA **CRX**
5. Name a segment that is parallel to $\overline{CR}$ **$\overline{WX}$**
6. Name a segment that is skew to $\overline{WE}$ **$\overline{CR}$**
7. Point C is formed by the intersection of **GC** and **WC**
8. $\overline{GC}$ is formed by the intersection of ____ and ____ **GCNR EWGC**

Use the figure at the right for 9 to 12.
9. Name line $\overleftrightarrow{HW}$ two other ways. **line m, $\overleftrightarrow{HT}$**
10. Name a point that is collinear with C and R. **•A**
11. Name the intersection of line t and $\overleftrightarrow{WR}$. **•S**
12. Name a ray that is opposite of $\overrightarrow{HE}$ **$\overrightarrow{HQ}$**
Fill in the blanks.
13. $\overline{QC} + $ **$\overline{CE}$** $ = \overline{QE}$ 14. $\overline{CW} + \overline{WR} = $ **$\overline{CR}$**
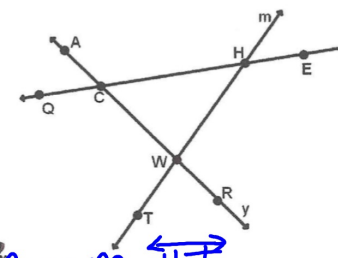
14. Name the highlighted ray.

N   A   C   X   K

$\overrightarrow{XA}$
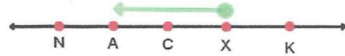
15. Name the highlighted segment.

N   A   C   X   K
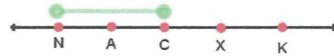
$\overline{NC}$
$\overline{CN}$

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1. Write down ALL of the steps it takes to solve the given equation for x. Give a reason for each of the steps.

Given: $10x + 11 + 2x = 59$

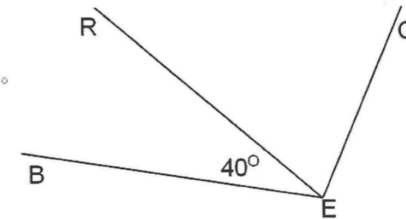| Steps	Reasons
1. $10x + 11 + 2x = 59$	1. Given
2. $12x + 11 = 59$	2. Combine like terms
3. $12x + 11 - 11 = 59 - 11$	3. subtr. prop.
4. $12x = 48$	4. Simpl.
5. $\frac{12x}{12} = \frac{48}{12}$	5. Division
6. $x = 4$	6. simpl.

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2. Write down **ALL** of the steps it takes to solve the given equation for x. Give a reason for each of the steps.

Given: $9x + 3(x - 4) + 2 = 74$

Statements | Reasons

$9x + 3(x-4) + 2 = 74$	Given
$9x + 3x - 12 + 2 = 74$	Distr.
$12x - 10 = 74$	combine like terms
$12x = 84$	Addition
$x = 7$	division

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3. Provide the reasons for each step.

R   C

Given: $m\angle CEB = 105°$
Prove: $m\angle CER = 65°$

B   40°
          E

Steps	Reasons
1. $m\angle CER + m\angle REB = m\angle CEB$	1. Angle Addition
2. $m\angle CER + 40° = 105°$	2. subst
3. $m\angle CER = 65°$	3. subtr

4. Provide the reasons for each step.

Given: J is the midpoint of $\overline{AZ}$

$2X+8$ $4X$

A   J   Z
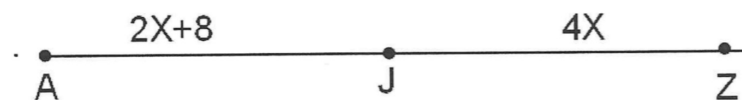
	Steps		Reasons
1.	J is the midpoint of $\overline{AZ}$	1.	Given
2.	$AJ = JZ$	2.	Def of mdpt
3.	$2x + 8 = 4x$	3.	subst.
4.	$8 = 2x$	4.	subtr.
5.	$4 = x$	5.	division
6.	$x = 4$	6.	symmt.

5. Provide the reasons for each step.

Given: $TC = 22$

$3X-5$ $2X+7$

T   Q   C

	Steps		Reasons
1.	$TQ + QC = TC$	1.	segment Add
2.	$3x - 5 + 2x + 7 = 22$	2.	subst.
3.	$5x + 2 = 22$	3.	combine like terms
4.	$5x = 20$	4.	subtr
5.	$x = 4$	5.	division

6. Provide the reasons for each step.

$12X$ $8X+40$

1   2
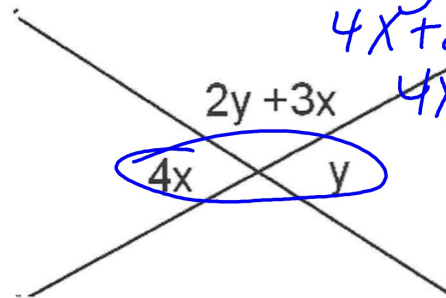
	Steps		Reasons
1.	$m\angle 1 + m\angle 2 = 180°$	1.	LP, def of suppl.
2.	$12x + 8x + 40 = 180°$	2.	subst
3.	$20x + 40 = 180°$	3.	combine like terms
4.	$20x = 140°$	4.	subtr
5.	$x = 70°$	5.	division

7. Use the given property to complete each statement.

(a). Use the Addition Property of Equality: If $9x - 12 = 42$, then $9x = 54$

(b). Use the Multiplication Property of Equality: If $\frac{x}{2} = 20$, then $x = 40$

(c). Reflexive Property $\angle ABC \cong \angle ABC$

(d). Transitive Property   If $MC = RW$ and $RW = QT$ and $QT = GV$, then $MC = GV$

(e). Symmetric Property   If $\angle CAD \cong \angle EXQ$, then $\angle EXQ \cong \angle CAD$

(f). Substitution Property   If $AB + BQ = AQ$ and $BQ = 12$, then $AB + 12 = AQ$

8. Solve for x and y:

2y +3x

4x   y

$$y = 4x = 48$$
$$4x + 2y + 3x = 180$$
$$4x + 2(4x) + 3x = 180$$
$$15x = 180$$
$$x = 12$$