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

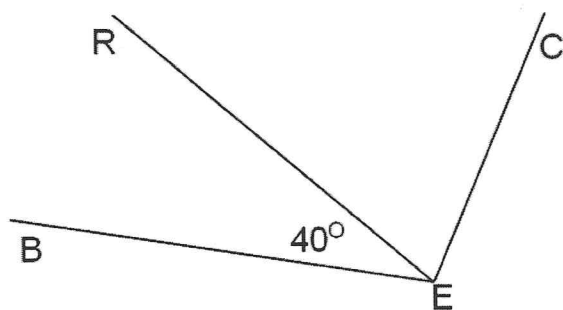| Steps	Reasons
1. $10x + 11 + 2x = 59$	1.
2. $12x + 11 = 59$	2.
3. $12x + 11 - 11 = 59 - 11$	3.
4. $12x = 48$	4.
5. $\dfrac{12x}{12} = \dfrac{48}{12}$	5.
6. $x = 4$	6.

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

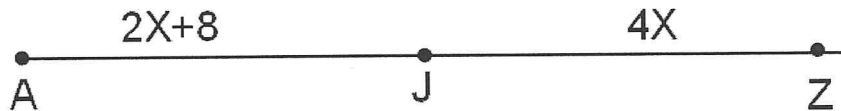3. Provide the reasons for each step.

Given: $m\angle CEB = 105°$

Prove: $m\angle CER = 65°$

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

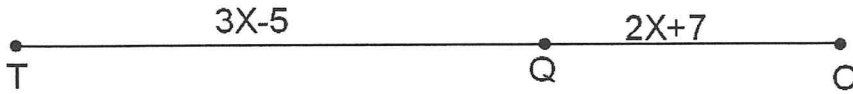4. Provide the reasons for each step.

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

Steps	Reasons
1. J is the midpoint of $\overline{AZ}$	1._____
2. $AJ = JZ$	2._____
3. $2x + 8 = 4x$	3._____
4. $8 = 2x$	4._____
5. $4 = x$	5._____
6. $x = 4$	6._____

5. Provide the reasons for each step.
Given: $TC = 22$

$$\overset{\text{3X-5}}{\underset{T}{\bullet}\rule{6cm}{0.4pt}\underset{Q}{\bullet}}\overset{\text{2X+7}}{\rule{3cm}{0.4pt}\underset{C}{\bullet}}$$

Steps	Reasons
1. $TQ + QC = TC$	1._____
2. $3x - 5 + 2x + 7 = 22$	2._____
3. $5x + 2 = 22$	3._____
4. $5x = 20$	4._____
5. $x = 4$	5._____

6. Provide the reasons for each step.
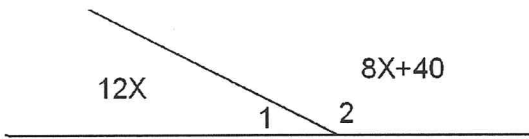
Steps	Reasons
1. $m\angle 1 + m\angle 2 = 180°$	1._____
2. $12x + 8x + 40 = 180°$	2._____
3. $20x + 40 = 180°$	3._____
4. $20x = 140°$	4._____
5. $x = 70°$	5._____

7. Use the given property to complete each statement.
(a). Use the Addition Property of Equality: If $9x - 12 = 42$, then
(b). Use the Multiplication Property of Equality: If $\frac{x}{2} = 20$, then
(c). Reflexive Property $\angle ABC \cong$
(d). Transitive Property   If $MC = RW$ and $RW = QT$ and $QT = GV$, then
(e). Symmetric Property   If $\angle CAD \cong \angle EXQ$, then
(f). Substitution Property   If $AB + BQ = AQ$ and $BQ = 12$, then

8. Solve for x and y:

2y +3x

4x   y

2