Geometry Chapter 2 Review Fall 2013

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. $\frac{12x}{12} = \frac{48}{12}$	5.
6. $x = 4$	6.

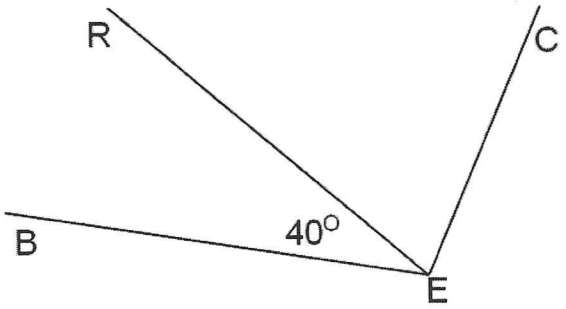
2. Write down **ALL** of the steps it takes to solve the given equation for x. Give a reason for each of the steps.

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

3. Provide the reasons for each step.

Given: $m\angle CEB = 105°$

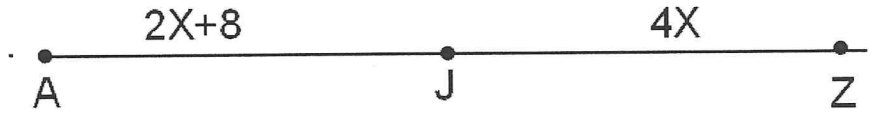
Prove: $m\angle CER = 65°$



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.

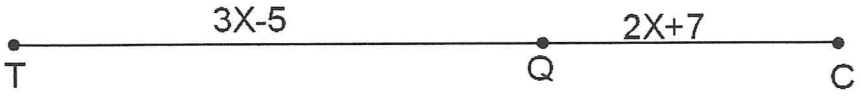
Given: J is the midpoint of $\overline{AZ}$



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._____

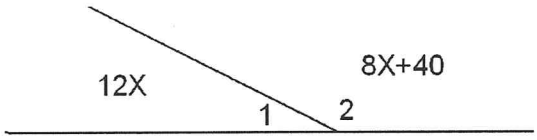
5. Provide the reasons for each step.

Given: $TC = 22$



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

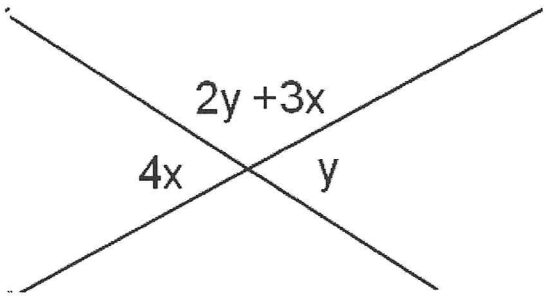
(c). Reflexive Property $\angle ABC \cong$

(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:



9. Use this conditional: If I go to sleep, then I'll have a dream.

a) State the hypothesis b) State the conclusion

10. Write each as a conditional

a) All flowers have petals. b) A fish has gills

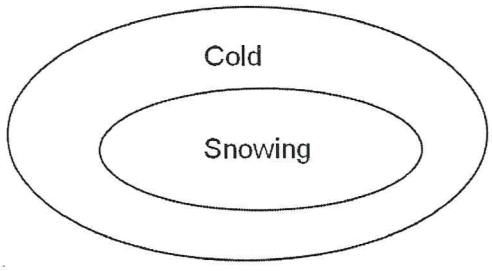
11. Use this conditional: If an even number and an odd number are multiplied, then the product is even.

a) Is this statement true or false? If false, give a counterexample.

b) Write the converse.

c) Is the converse true or false? If false, give a counterexample

12. Write the conditional modeled by the Venn Diagram:



13. Use this biconditional: It's a cat if and only if it has whiskers.

a) Write the two conditionala that make up this biconditional.

b) Are both conditionals true? If no, state which is false and give a counterexample.

c) Is the biconditional true? Explain.

For 14 and 15 do the following:

a) Write the converse.

b) Is the converse true? If no, give a counterexample. If yes, write the original conditional and its converse as a biconditional.

14. Use this conditional: If a quadrilateral is a Rhombus, then it has four equal sides.

15. Use this conditional: If you add an even number and an odd number, then the sum is odd.