Geometry   Chapter 2 Review   ANSWERS   Fall 2013

1. Reasons:
1. Given
2. Simplify/combine like terms.
3. Subtraction Property of Equality
4. Simplify
5. Division Property of Equality
6. Simplify

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

STEPS	REASONS
1. $9x + 3(x - 4) + 2 = 74$	1. Given
2. $9x + 3x - 12 + 2 = 74$	2. Distributive Property
3. $12x - 10 = 74$	3. Simplify/Combine like terms
4. $12x - 10 + 10 = 74 + 10$	4. Addition Prop of Eq.
5. $12x = 84$	5. Simplify
6. $\frac{12x}{12} = \frac{84}{12}$	6. Division Property of Eq.
7. $x = 7$	7. Simplify

3. Reasons:
1. Angle Addition Postulate
2. Substitution
3. Subtraction Property of Equality

4. Reasons:
1. Given
2. Definition of Midpoint
3. Substitution
4. Subtraction Prop of Eq.
5. Division Prop of Eq.
6. Symmetric Prop of Eq.

5. Reasons.
1. Segment Additoin Postulate
2. Substitution
3. Simplify/Combine Like Terms
4. Subtraction Prop of Eq.
5. Division Prop of Eq.

1

6. Reasons:
1. Angle Add Post or Def of Suppl.
2. Substitution
3. Simplify/Combine like terms
4. Subtraction Prop of Eq.
5. Division Prop of Eq.

7.
a. $9x = 54$
b. $x = 40$
c. $\angle ABC \cong \angle ABC$
d. $MC = GV$
e. $\angle EXQ \cong \angle CAD$
f. $AB + 12 = AQ$

8. $x = 12$ $y = 48$

9. a) Hypothesis: I go to sleep b) Conclusion: I'll have a dream

10. a) If the plant is a flower, then it has petals.
    b) If the animal is a fish, then it has gills.h has gills

11. a) True   b) If the product of two number is even, then there was an odd number and an even number.
  c) This converse is false because if the product is even, then the two numbers could both be even.

12. If it is snowing, then it is cold.

13. a) If the animal is a cat, then it has whiskers.
        If the animal has has whiskers, then it is a cat.
  b) No, the second conditional is false because the animal could be a mouse.
  c) No, the biconditional would only be true if both conditionals are true.

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. a) Converse: If a quadrilateral has four equal sides, then it is a Rhombus.
b) True: Since a square is also a rhombus any four sides figure with equal sides is called a rhombus.
Biconditional: A quadrilateral is a Rhombus if and only if it has four congruent sides.

15. a) Converse: If the sum of two numbers is odd, then you added an even with an odd.
b) False, both numbers could be odd and still get an odd sum.