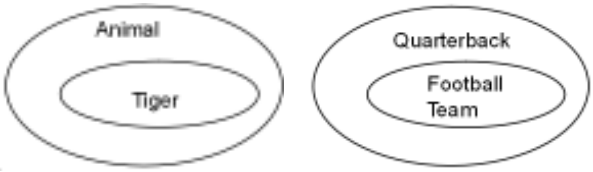
Geometry Review ANSWERS Quiz #2 Sec 2-1, 2-2, 2-4 Fall 2013

1. a. Hypothesis: $2x - 8 = 40$ Conclusion: $x = 24$
   b. Hypothesis: you see lightening Conclusion: you'll hear thunder.

2. a. If an animal is an eagle, then it is a bird.
   b. If a figure is a rhombus, then it has four sides

3. a. True b. False, it could be a Monday of vaction or a snow day c. True

4. a. b



5. a. If you have a sunburn, then there was no clouds b. If it rains, then the grass will be green.

6. a. Converse: If a point has a positive x-coordinate, then it is in the first quadrant.
   False, the point could be in the fourth quadrant.
   b. Converse: If $x > 10$, then $x^2 > 100$ True

7. a. Converse: If an angle has a measure of $90°$, then it is a right angle.
   b. True
   c. An angle is a right angle if and only if its measure is equal to $90°$

8. a. Convers: If an integer is a multiple of 10, then it ends in a zero.
   b. True
   c. An integer ends in a zero if and only if it is a multiple of 10.

9. If a whole number is a multiple of 5, then its last digit is either a 0 or a 5
   If a whole number's last digit is either a 0 or a 5, then it is a multiple of 5

10. a. True, both conditionals are true.
    b. False, the conditional: If two figures have the same shape, then they are congruent; is false, they could be similar.

11. a.

Step	Reason
$10x + 19 - 2x = 43$	Given
$8x + 19 = 43$	Combine like terms
$8x + 19 - 19 = 43 - 19$	Subtr Prop Eq
$8x = 24$	Simplify
$\frac{8x}{8} = \frac{24}{8}$	Div Prop Eq
$x = 3$	Simplify

b.

Step	Reason
$9x + 3(x - 4) + 2 = 74$	Given
$9x + 3x - 12 + 2 = 74$	Distrib Prop
$12x - 10 = 74$	Combine like terms
$12x - 10 + 10 = 74 + 10$	Add Prop Eq
$12x = 84$	Simplify
$\frac{12x}{12} = \frac{84}{12}$	Div Prop Eq
$x = 7$	Simplify

12.

Step	Reason
$m\angle ABR = 110°$	Given
$m\angle ABQ + m\angle QBR = m\angle ABR$	Angle Add Post
$m\angle ABQ + 50° = 110°$	Substitution
$m\angle ABQ + 50° - 50° = 110° - 50°$	Subtr Prop Eq
$m\angle ABQ = 60°$	Simplify

13.

Step	Reason
R is the midpoint of $\overline{AB}$	Given
$AR = RB$	Def of Midpoint
$3x + 24 = 5x$	Substitution
$3x + 24 - 3x = 5x - 3x$	Subtr Prop of Eq
$24 = 2x$	Simplify
$\frac{24}{2} = \frac{2x}{2}$	Div Prop of Eq
$12 = x$	Simplify
$x = 12$	Symmetric Prop

14.

Step	Reason
$MR + RK = MK$	Seg Add Post
$7x + 1 + 3x - 8 = 123$	Substitution
$10x - 7 = 123$	Combine like terms
$10x - 7 + 7 = 123 + 7$	Add Prop of Eq
$10x = 130$	Simplify
$\frac{10x}{10} = \frac{130}{10}$	Div Prop of Eq
$x = 13$	Simplify

15. a. If $9x - 12 = 42$, $\boxed{\text{then } 9x = 54}$

b. $\angle ABC \cong \boxed{\angle ABC}$

c. If $AB = 12$ and $AB + BC = 120$, then $\boxed{12 + BC = 120}$

d. If $\overline{AB} \cong \overline{CD}$ and $\overline{CD} \cong \overline{KJ}$ and $\overline{KJ} \cong \overline{XY}$ then $\boxed{\overline{AB} \cong \overline{XY}}$

16. a. Symmetric Property of Congruence

b. Division Property of Equality

c. Distributive Property