Name: _____ **Unit 2:** Logic & Proof

Date: _____ **Per:** _____ **Homework 4:** Venn Diagrams

**** This is a 2-page document! ****

Directions: Draw a Venn diagram to represent each statement.

1. Trapezoids are never parallelograms.

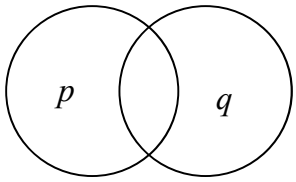
2. Every apple is a fruit.

3. All linear pairs are supplementary angles.

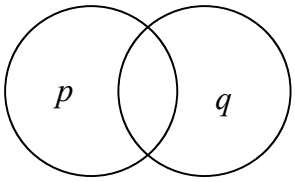
4. Some teens who babysit also mow lawns.

Directions: Shade the indicated region of the Venn diagrams below.

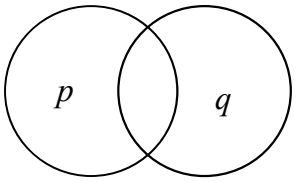
5. p



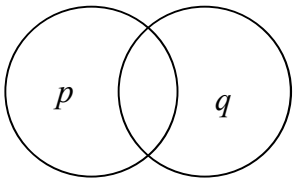
6. $p \wedge q$



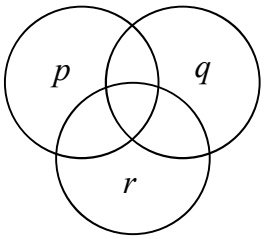
7. $p \vee q$



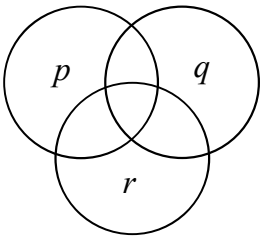
8. $\sim p \wedge q$



9. $(q \vee r) \wedge \sim p$

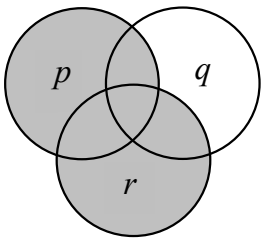


10. $(\sim q \wedge p) \vee r$

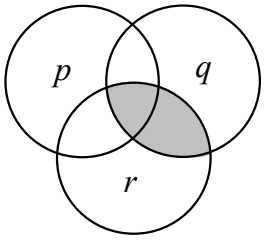


Directions: Write a logic statement to represent the shaded region.

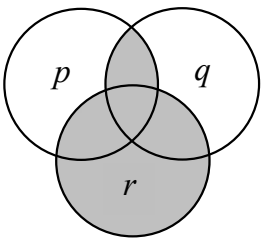
11.



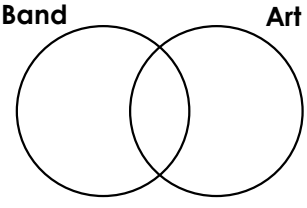
12.



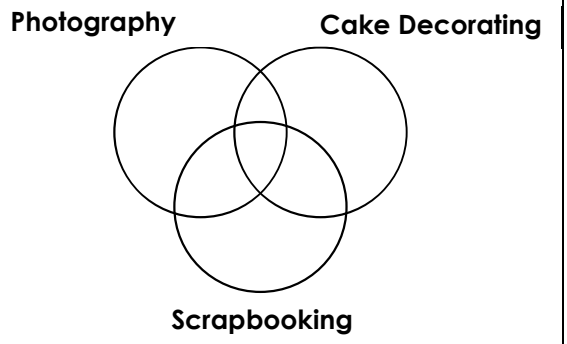
13.



14. Some students who take band also take art. If Jack takes art but not band, shade the area on the diagram where he would belong.

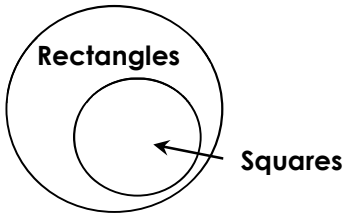


15. There are three classes offered at the craft store: photography, cake decorating, and scrapbooking. If Sarah is signed up for photography and scrapbooking, but not cake decorating, shade the area on the diagram she would belong.

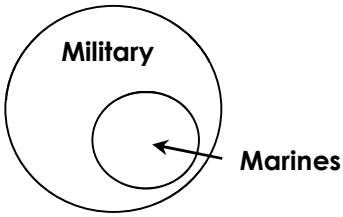


Directions: Describe each Venn diagram using a conditional or compound statement.

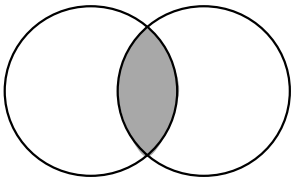
16.



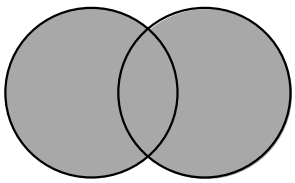
17.



18.



19.



20.