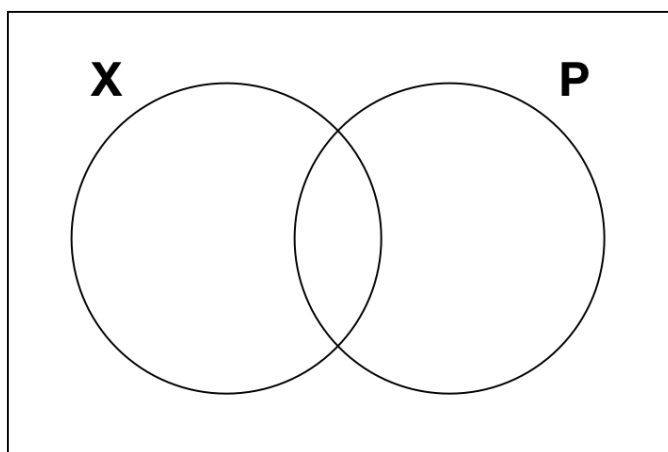


East Los Angeles College
Department of Mathematics
Math 230
Practice Test 1

Market Purchases- During the Black Friday Sale at Best Buy, there were 200 purchases made by customers in an hour.

109 purchased Xboxes
98 purchased Play Stations
22 purchased both

Of the purchases made, how many purchased:



1. Xboxes only?
2. Play Stations only?
3. Xboxes or Play Stations?
4. Neither of those two consoles?

Sports Fans- A survey of 350 residents was conducted regarding sports activities.

196 liked Baseball

153 liked Football

88 liked Soccer

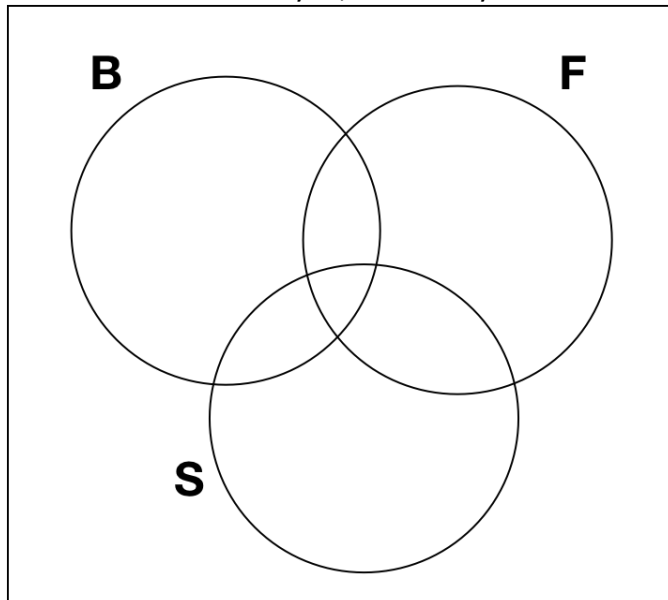
59 liked Baseball and Football

37 liked Baseball and Soccer

32 liked Football and Soccer

21 liked all three sports

Of the residents surveyed, how many liked:



5. None of the sport activities?

6. Only Baseball?

7. Only Football?

8. Only Soccer?

9. Exactly one of these sports?

10. Exactly two of these sports?

11. Baseball or Football?

12. Baseball or Soccer?

Let p and q be statements

p : The dog has a long tail

q : A cat can purr

Write the following statements into words

13. $\sim p$

14. $\sim q$

15. $p \vee \sim q$

16. $\sim p \wedge q$

$$17. \sim q \rightarrow \sim p$$

$$18. \sim (p \rightarrow \sim q)$$

Let p, q, r be statements

P : The water is 100 degrees

q : The sky is clear

r : The apple is green

$$19. (q \wedge r) \rightarrow \sim p$$

$$20. \sim r \rightarrow (p \vee r)$$

$$21. (p \wedge q) \vee \sim r$$

$$22. (p \leftrightarrow r) \wedge \sim q$$

For the following truth tables below, fill in the blanks.

23. $p \vee \sim q$

p	q	$p \vee \sim q$

24. $\sim p \wedge q$

p	q	$\sim p \wedge q$

25. $\sim q \rightarrow \sim p$

p	q	$\sim q \rightarrow \sim p$

26. $\sim (p \rightarrow \sim q)$

p	q	$p \rightarrow \sim q$	$\sim (p \rightarrow \sim q)$

