

Use the given sets to find the following. Use the Venn diagram if you would like (optional). At least 2 answers MUST be written in interval notation.

$$A = \{x \mid x \in \mathbb{Z}, -4 < x \leq 2\}$$

$$B = \{x \mid x \in \mathbb{W}, -3 < x < 6\}$$

$$C = \{x \mid x \in \mathbb{N}, x \leq 8\}$$

1.) $A' =$

2.) $A \cap B =$

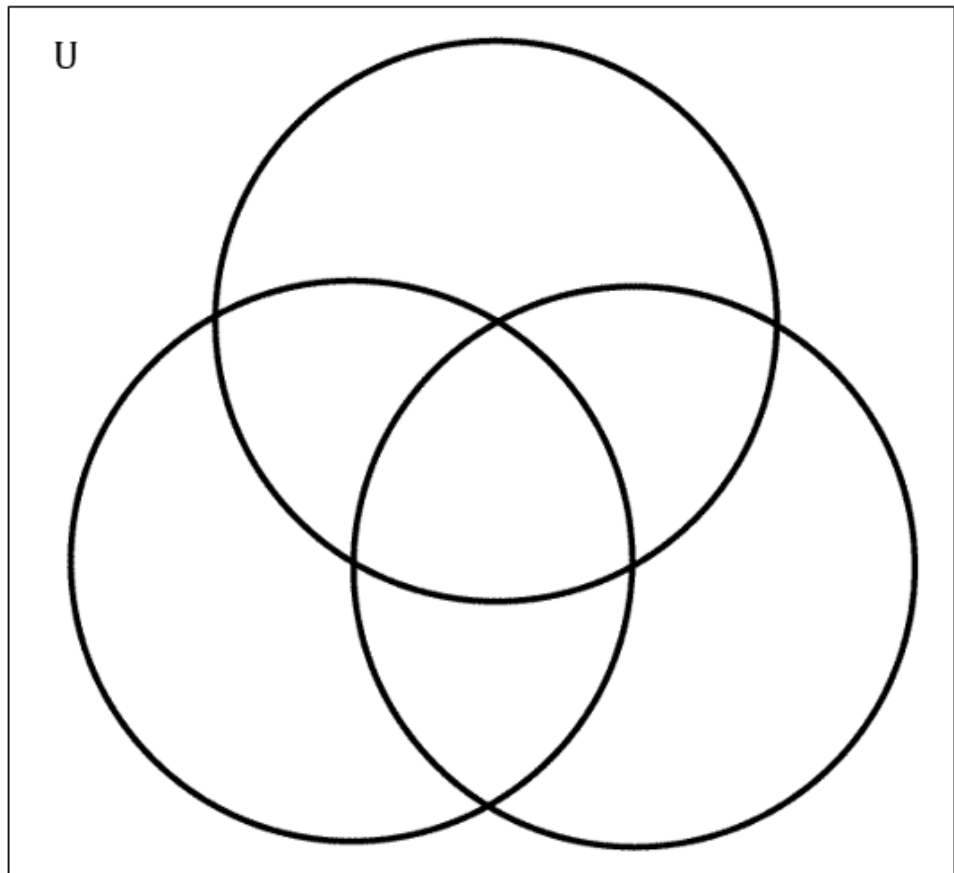
3.) $A' \cap C =$

4.) $(A \cap B \cap C)' =$

5.) $(B \cup C) \cap A' =$

6.) $(A \cup B)' \cap (A \cap B)' =$

7.) $(A \cup C)' =$



Solve each equation for the variable. Show your work in a neat, organized manner. All fractional answers should be simplified as much as possible. Please circle your answers.

8.) $6x - 8 - 2x = -16 + 5x$

9.) $a + \frac{2}{7} = \frac{5}{2}$

10.) $3 = 2y - 13$

11.) $\frac{x}{2} - 9 = 11$

12.) $4(2x - 1) = -3(x + 2) + 11x$

13.) $-\frac{3}{2}m = 18$

14.) $-\frac{2}{3}(4x - 5) = \frac{1}{2}(2x + 6)$

15.) $4 = \frac{2}{9}(4n - 2)$

16.) $3(x + 12) = 8 - 4x$

Simplify each as much as possible,

17.) $4 \cdot 7 - (4 - 3)^2 \cdot 6 \div 3$

18.) $2 + 4 \div 2 \cdot 4$

19.) $(3 - 1)^2 \div 2 + 7 \cdot 3$

20.) $3 + 3 \div 3 - 3^2$

21.) Evaluate $-3x + 4 \div 2$ if $x = -2$

22.) Evaluate $\frac{1}{2}(4x + 12) - x$ if $x = 3$

Solve each proportion.

23.) $\frac{2}{n} = \frac{14}{n+30}$

24.) $\frac{x-4}{10} = \frac{3}{5}$

25.) $\frac{x-2}{5} = \frac{x+1}{2}$

26.) Write a ratio of wins to losses for a soccer team that played 27 games and won 19. Simplify the ratio, if possible. Circle your final answer (ratio).

27.) Write a ratio of kids to adults if there are 94 people at a party, and 57 of them are adults. Simplify the ratio, if possible. Circle your final answer (ratio).

Solve each word problem that involves percent. Show all work and circle your final answers.

28.) What number is 15% of 80?

29.) What percent of 28 is 21?

30.) 36 is 80% of what number?