Unit 1: Set Theory Lesson 1C: Solutions



• If you have any difficulty with these solutions, please contact your teacher before continuing.

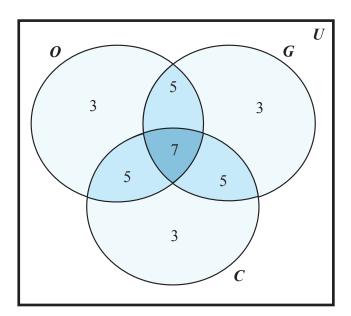
1. Several solutions are possible. Contact your teacher to confirm that your answer is correct.

## **Possible Solution 1:**

- 7 teens play all three types of games.
- 5 teens play online and on game consoles.
- 5 teens play on game consoles and on their cell phones.
- 5 teens play online and on their cell phones.
- 3 teens play online only.
- 3 teens play on game consoles only.
- 3 teens play on their cell phones only.

Let  $O = \{\text{playing online}\}; G = \{\text{playing on a game console}\}; C = \{\text{playing on their cell phone}\}$ 

Venn diagram shows number of elements in each region:



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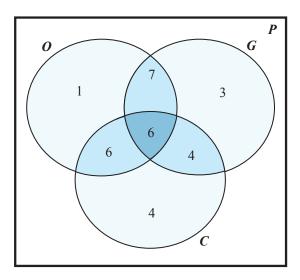


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## **Possible Solution 2:**

- 6 teens play all three types of games.
- 7 teens play online and on game consoles.
- 4 teens play on game consoles and on their cell phones.
- 6 teens play online and on their cell phones.
- 1 teen plays online only.
- 3 teens play on game consoles only.
- 4 teens play on their cell phones only.

Venn diagram shows number of elements in each region.



## 2. a. 38

Explanation - There are 20 boating sites that deal with waterskiing boats, and 21 waterskiing sites that deal with boats; however, 3 of these 21 deal with scuba diving.

The total number of boats in a search for "waterskiing boats" is 20 + 21 - 3 = 38

- b. *Waterskiing* and *boats* will turn up sites that deal with boats and waterskiing and not just "*waterskiing boats*".
- c. 1