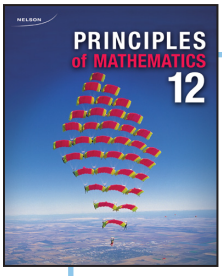

- If you have any difficulty with these solutions, please contact your teacher before continuing.

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$$n(B) + n(C) + n(D) - n(B \cap C) - n(B \cap D) - n(C \cap D) + n(B \cap C \cap D) = n(B \cup C \cup D)$$

$$13 + 13 + 13 - (x+2) - (x+3) - (x+4) + x = 24$$ ✓

$$39 - x - 2 - x - 3 - x - 4 + x = 24$$

$$30 - 2x = 24$$

$$-2x = -6$$

$$x = 3$$ ✓

3 children own all 3 types of pets.

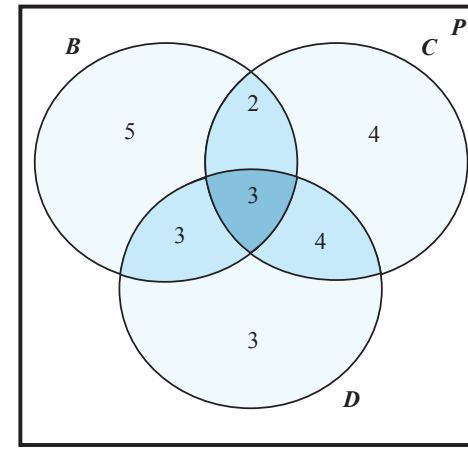
Update the Venn diagram and determine the number of children who own only a bird, only a cat, and only a dog.

$n(B \setminus C \setminus D) = 13 - (2 + 3 + 3) = 5$

$n(C \setminus B \setminus D) = 13 - (2 + 3 + 4) = 4$ ✓

$n(D \setminus B \setminus C) = 13 - (3 + 3 + 4) = 3$ ✓

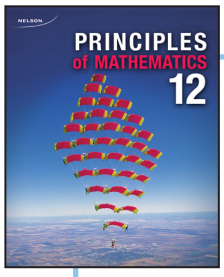
Venn diagram shows number of elements in each region:



The number of children who own only one type of pet is

$n(B \setminus C \setminus D) + n(C \setminus B \setminus D) + n(D \setminus B \setminus C) = 5 + 4 + 3 = 12$

Therefore, 12 children own only 1 type of pet. ✓



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$n(W \setminus C \setminus T) = 30$
$n(C \setminus W \setminus T) = 60$
$n(T \setminus W \setminus C) = 210$

The number of students who use exactly one method of green transportation is

$n(W \setminus C \setminus T) + n(C \setminus W \setminus T) + n(T \setminus W \setminus C) = 30 + 60 + 210 = 300$ ✓ ✓

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Including the word *animated* would reduce further the number of hits because it would eliminate any sites that deal with live-action television shows. ✓

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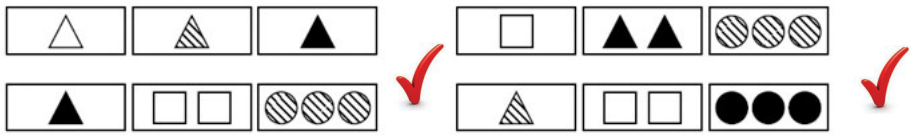
Correct sets:

 ✓ ✓