

Addition and Subtraction Involving Variables

1. The data in the table shows the number of candies each child received as Halloween treats. Use the data in the table to write an expression for each of the following. Find the value of the expression.

Name	Number of Candies
James	18
Jake	15
Lance	21
Sally	n
Sarah	16

- James gives 4 of his candies to Sally. How many candies does James have now?
- Sarah takes 6 candies from Lance. How many candies does Lance have now?
- Jake gives 5 cards to Sally. How many candies does Jake have now? If Sally has a total of 24 candies, how many candies did Sally have to begin with?

Solution:

b.

b.

c.

2. Find the value of each of the expressions.

- $40 + (22 - 18) - 16$
- $44 - (w - 8)$ if $w = 26$
- $(29 + w) - (18 + m)$ if $w = 8$ and $m = 6$
- $(m + 6) + 4 - h$ if $m = 8$ and $h = 10$
- $14 - (m - 12) + (2 - w)$ if $m = 4$ and $w = 15$
- $9 - b - (10 - c)$ if $b = 5$ and $c = 8$

Solution:

- _____
- _____
- _____
- _____
- _____
- _____

3. Write an expression using a variable. What does the variable represent?

- The thermometer reading dropped by 8°F .
- 84 tourists chose Destination A. The rest chose Destination B.
- 8 students auditioned for the play. Some of them were not accepted.
- A pack of chocolate has 84 chocolate bars. Cathy ate a few chocolate bars each day for 8 days.

Solution:

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4. Find the value of the variable.

- $x + 25 = 38$
- $4 - 6 + y = 0$
- $22 - b - 8 = 6$

Solution:

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Answer Key

1. The data in the table shows the number of candies each child received as Halloween treats. Use the data in the table to write an expression for each of the following. Find the value of the expression.

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- Jake gives 5 candies to Sally. How many candies does Jake have now? If Sally has a total of 24 candies, how many candies did Sally have to begin with?

Solution:

- $18 - 4 = 14$
- $21 - 6 = 15$
- Jake's candies now = 10
Sally's candies at the beginning = $24 - 5 - 4 = 15$

2. Find the value of each of the expressions.

- $40 + (22 - 18) - 16$
- $44 - (w - 8)$ if $w = 26$
- $(29 + w) - (18 + m)$ if $w = 8$ and $m = 6$
- $(m + 6) + 4 - h$ if $m = 8$ and $h = 10$
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- $9 - b - (10 - c)$ if $b = 5$ and $c = 8$

Solution:

- 28
- 26
- 13
- 8
- 9
- 2

3. Write an expression using a variable. What does the variable represent?

- The thermometer reading dropped by 8°F .
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- 8 students auditioned for the play. Some of them were not accepted.
- A pack of chocolate has 84 chocolate bars. Cathy ate a few chocolate bars each day for 8 days.

Solution:

- $t - 8^{\circ}\text{F}$ (t = original temperature)
- $84 + p$ (p = tourists who chose Destination B)
- $8 - s$ (s = no. of students rejected)
- $84 - 8c$ (c = no. of chocolates eaten per day)

4. Find the value of the variable.

- $x + 25 = 38$
- $4 - 6 + y = 0$
- $22 - b - 8 = 6$

Solution:

- 13
- 2
- 8