A variable is a symbol used to represent one or more numbers. It is common to use letters of the alphabet for variables. The value of a variable used several times in one expression must be the same.

Example 1

If the unknown distance of Cecil’s hop is represented by the variable $h$, write an expression for:

a. Three equal hops $\Rightarrow h + h + h$ or $3h$

b. Five equal hops $\Rightarrow h + h + h + h + h$ or $5h$

c. Two equal hops and walking 3 feet $\Rightarrow h + h + 3$ or $2h + 3$

Example 2

If the unknown cost of a banana is $b$, and the unknown cost of an apple is $a$, write an expression for the cost of:

a. Three bananas and two apples $\Rightarrow b + b + b + a + a$ or $3b + 2a$

b. One banana and 3 apples $\Rightarrow b + a + a + a$ or $b + 3a$

c. One banana, one apple, a $2$ item, and a $3$ item $\Rightarrow b + a + 2 + 3$ or $b + a + 5$
Problems

If the unknown distance of Cecil’s jump is represented by $J$, write an expression for:

1. Three jumps
2. Six jumps
3. Four jumps and walking 5 feet
4. Walking 3 feet, two jumps, walking 2 feet

If the unknown distance of Cecil’s jump is represented by $J$, and the unknown distance of Cecil’s hop is represented by $H$, write an expression for:

5. Two jumps and two hops
6. One jump, three hops, and two jumps
7. One jump, three hops, and walking 7 feet
8. Walking 6 feet, three hops, and two jumps

If the unknown cost of a taco is $T$, and the unknown cost of a carton of milk is $M$, write an expression for the cost of:

9. Three tacos and two milks
10. One taco and four milks
11. One taco, one milk and two tacos, one milk
12. Two tacos, one milk, and a $2 item

Answers

1. $J + J + J = 3J$
2. $J + J + J + J + J + J = 6J$
3. $J + J + J + J + 5 = 4J + 5$
4. $3 + J + J + 2 = 2J + 5$
5. $J + J + H + H = 2J + 2H$
6. $J + H + H + H + J + J = 3J + 3H$
7. $J + H + H + H + 7 = J + 3H + 7$
8. $6 + H + H + H + J + J = 3H + 2J + 6$
9. $3T + 2M$
10. $T + 4M$
11. $T + M + 2T + M = 3T + 2M$
12. $2T + M + 2$