Lesson 21: Writing and Evaluating Expressions—Multiplication and Addition

Problem Set

1. Compact discs (CDs) cost each at the Music Emporium. The company charges for shipping and handling, regardless of how many compact discs are purchased.
   1. Create a table of values that shows the relationship between the number of compact discs that Mickey buys, , and the amount of money Mickey spends, , in dollars.

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| **Number of CDs Mickey Buys ()** | **Total Cost in Dollars ()** |
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* 1. If you know how many CDs Mickey orders, can you determine how much money he spends? Write the corresponding expression.
  2. Use your expression to determine how much Mickey spent buying CDs.

1. Mr. Gee’s class orders paperback books from a book club. The books cost each. Shipping charges are set at , regardless of the number of books purchased.
   1. Create a table of values that shows the relationship between the number of books that Mr. Gee’s class buys, , and the amount of money they spend, , in dollars.

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| **Number of Books Ordered ()** | **Amount of Money Spent in Dollars ()** |
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* 1. If you know how many books Mr. Gee’s class orders, can you determine how much money they spend? Write the corresponding expression.
  2. Use your expression to determine how much Mr. Gee’s class spent buying books.

1. Sarah is saving money to take a trip to Oregon. She received in graduation gifts and saves per week working.
   1. Write an expression that shows how much money Sarah has after working weeks.
   2. Create a table that shows the relationship between the amount of money Sarah has () and the number of weeks she works ().

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| **Amount of Money Sarah Has ()** | **Number of Weeks Worked ()** |
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* 1. The trip will cost . How many weeks will Sarah have to work to earn enough for the trip?

1. Mr. Gee’s language arts class keeps track of how many words per minute are read aloud by each of the students. They collect this oral reading fluency data each month. Below is the data they collected for one student in the first four months of school.
   1. Assume this increase in oral reading fluency continues throughout the rest of the school year. Complete the table to project the reading rate for this student for the rest of the year.

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| --- | --- |
| **Month** | **Number of Words Read Aloud in One Minute** |
| September |  |
| October |  |
| November |  |
| December |  |
| January |  |
| February |  |
| March |  |
| April |  |
| May |  |
| June |  |

* 1. If this increase in oral reading fluency continues throughout the rest of the school year, when would this student achieve the goal of reading words per minute?
  2. The expression for this student’s oral reading fluency is, where represents the number of months during the school year. Use this expression to determine how many words per minute the student would read after months of instruction.

1. When corn seeds germinate, they tend to grow inches in the first week and then inches per week for the remainder of the season. The relationship between the height () and the number of weeks since germination () is shown below.
   1. Complete the missing values in the table.

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| **Number of Weeks Since Germination ()** | **Height of Corn Plant ()** |
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* 1. The expression for this height is. How tall will the corn plant be after 15 weeks of growth?

1. The Honeymoon Charter Fishing Boat Company only allows newlywed couples on their sunrise trips. There is a captain, a first mate, and a deck hand manning the boat on these trips.
   1. Write an expression that shows the number of people on the boat when there are couples booked for the trip.
   2. If the boat can hold a maximum of people, how many couples can go on the sunrise fishing trip?