

Desert Island

After being shipwrecked on a desert island, a small group of vacationers finds a large supply of chocolate chip cookies in a tiny hut. The hungry people start working through the cookie supply on the day they arrive and they eat the same number of cookies every day. After 7 days, there are 246 cookies left. After 16 days, they are down to 138 cookies.

- a) Write an equation that expresses the number of cookies remaining, N , as a function of the number of days since they were shipwrecked, D .

- b) Make a graph that conveys the situation in this problem. Make sure you label the axes and use an appropriate scale.
 - i) What is the y-intercept and what does it represent in the problem?
 - ii) What is the slope of the line you graphed and what does this number represent in the problem?
 - iii) What is the x-intercept and what does it represent in the problem?

- c) If the vacationers started eating the cookies on a Monday, on what day of the week will they run out of cookies?



Menu Questions

**Hermione is writing a copy of each of the magic spells she knows. She writes the same number of spells each day. After 12 days she still has 405 to go. After 20 days, she has 285 to go.*

- a) *How many spells does Hermione copy each day?*
- b) *How many spells does Hermione know?*
- c) *How many more days will it take Hermione to finish copying the spells that she knows?*
- d) *Make a graph that conveys the situation in this problem. Make sure you label the axes and use an appropriate scale.*
 - 1) *What is the y-intercept and what does it represent in the problem?*
 - 2) *What is the slope of the line you graphed and what does this number represent in the problem?*
 - 3) *What is the x-intercept and what does it represent in the problem?*

***/**Harry and Hermione are each writing copies of all of the magic spells that they know. Harry writes the same number of spells each day. Hermione also writes the same number of spells each day. After one week, Harry has 224 to go and Hermione has 290 to go. After a second week, Harry has 126 to go and Hermione has 164 to go.*

- a) *Who finishes first?*
- b) *If they both started writing on a Tuesday, what day of the week does each of them finish on.*
- c) *Parvati is also copying all of her spells. She copies 16 each day and the total time it takes her is between the total times for Harry and Hermione. How many spells does Parvati know?*

****A math teacher is copying pages to create a packet of problems for each member of her class. Each student will be given an identical packet. The teacher copies a total of 529 pages to create the packets. How many students are in her class?*

