Name: _____ Date: _____

BLM 10–1

Chapter 10 Math Link Introduction

This worksheet will help you with the Math Link introduction on page 369.

You can use your knowledge of linear equations to encrypt a password.

1. Use the chart in the student resource and the equation $y = 3x + 2$ to encrypt the word *weather*. Copy and fill in the table below.

Letter	Number From Chart, x	Encrypted Form, $y = 3x + 2$
w	23	$y = 3\ (23) + 2$ $y = 69 + 2$ $y = 71$
e	5	
a	1	
t		
h		
e		
r		

The encrypted form of *weather* is _____ _____ _____ _____ _____ _____ _____.

2. Decrypt the following encrypted number sequence: 59 29 38 38 77.

- For example, to decrypt 59, replace the variable y in the equation $y = 3x + 2$, and solve for x.
- Find the letter that corresponds to x in the chart in the student resource.
- Copy and fill in the table on the next page. The first row has been done for you.

Name: _____ Date: _____

Encrypted Form, y	Number, x	Letter
59	$59 = 3x + 2$ $59 - 2 = 3x - 2$ $57 = 3x$ $\frac{57}{3} = \frac{3x}{3}$ $19 = x$	19 = s
29		
38		
38		
77		

What password does the above number sequence represent?

_____

3. Encrypt your own password using the numbers in the first chart and a linear equation of your choice.

Password _____ Linear equation _____

Copy and fill in the table below. Include as many rows as necessary for your word.

Letter	Number From Chart, x	Encrypted Form, y =

4. Exchange your password with a classmate's.

- Decrypt each other's password and determine what equation was used.
- If your classmate needs a hint, tell what numbers represent two letters in your encryption system.