First Name_____
Last Name_____
Pd: ____

M4.T2.L3 Free Dive Lesson

Grab your calculator. Work with at least one of your group members to figure this out.

A dolphin named Flipper leaps into the air and dives down into the ocean at a steady rate of 3.18 feet per second.

a. Complete the table to show how deep the dolphin will be after each given time.
Note: Since Flipper is diving underwater, his depth is represented with negative numbers.

Time (seconds)	Depth (feet) & space to show what you put into the calculator
10	$10(3.18) = -31.8$ ft
30	$30(3.18) = -95.4$ ft
65	$65(3.18) = -206.7$ ft
90	$90(3.18) = -286.2$ ft

b. What are the quantities that change in this situation? Hint: Look at the Table column titles.

Time
Depth

c. Which variable is independent? Which is dependent? Look back to your notes

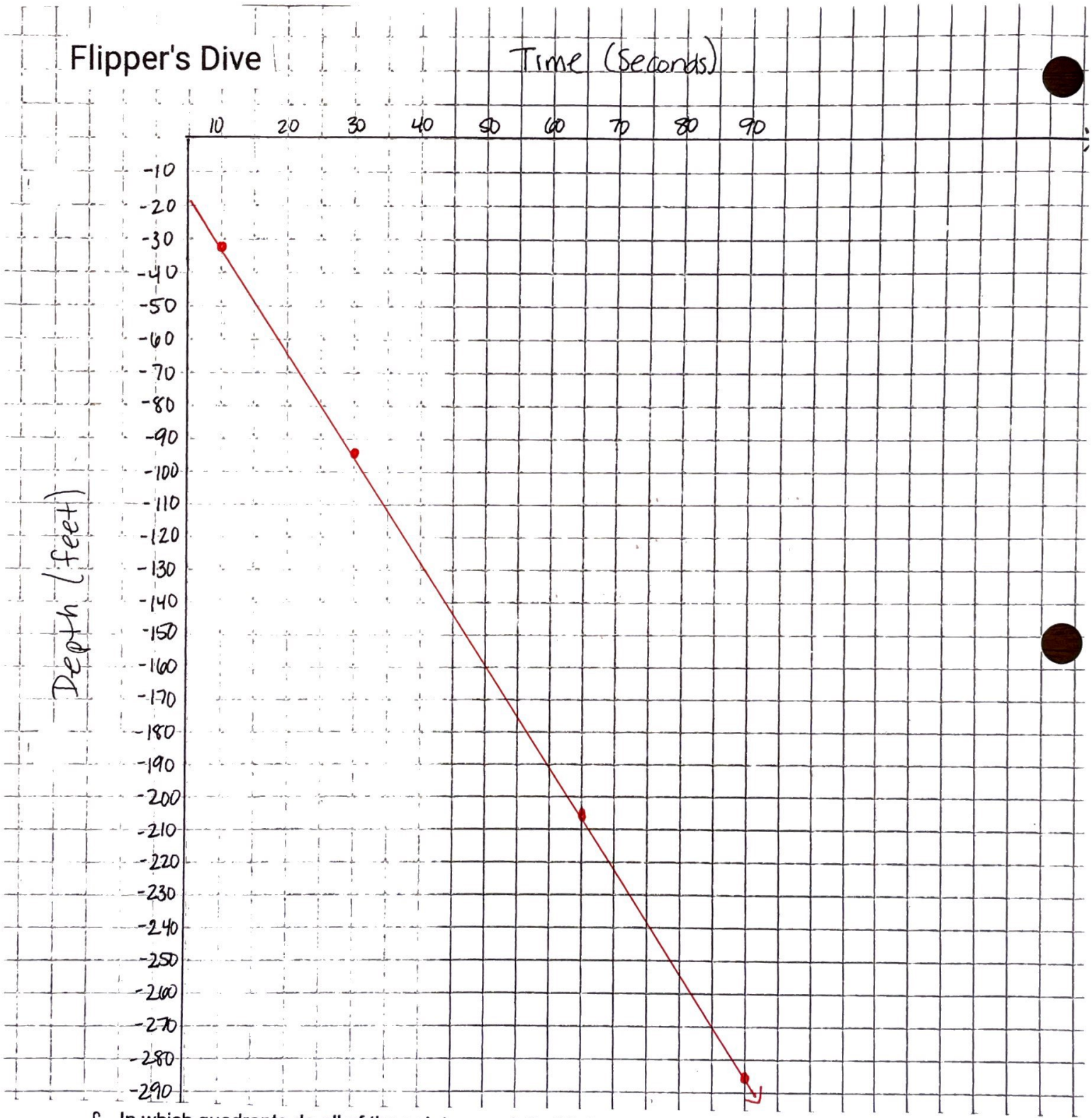
Depth : dependent
Time : independent

Depth depends on the time

d. If *t* represents time in seconds, and *d* represents depth in feet, write an equation for this situation.
Hint: Your independent variable will always be on the same side of the equation as the number involved (in this case 3.18), and the dependent variable is by itself on the other side of the equals sign.
Remember: The number of feet he dives per second will be negative.

$d = -3.18t$

e. Use the values in your table to complete a graph of the situation.



f. In which quadrants do all of the points you plotted lie? Why?

Q IV

The time (x-coordinate) is always positive and the depth (y-coordinate) is always negative

g. Does it make sense to connect the points you plotted in a line? Why or why not?

Yes, both depth and time can have partial values