

Name \_\_\_\_\_

Bobby and Patricia went for a hike. They had a GPS receiver with them. At the start of their hike their altitude was 4100 feet above sea level according to the GPS. After hiking for 3 minutes their altitude was 4070 feet. After hiking a total of 6 minutes their altitude was 4040 feet. After 9 minutes the altitude was 4010 feet. After 12 minutes it was 3980 feet. After 15 minutes it was 3950 feet. After 18 min. it was 3920 ft. After 21 min. it was 3890 ft. After 24 min. it was 3860 ft. After 27 min. it was 3830 ft. After 30 min. it was 3800 ft.

You do **not** need to do the following in order. Do them in the order that is best for you.

Make a table that shows how altitude depends on time traveled.

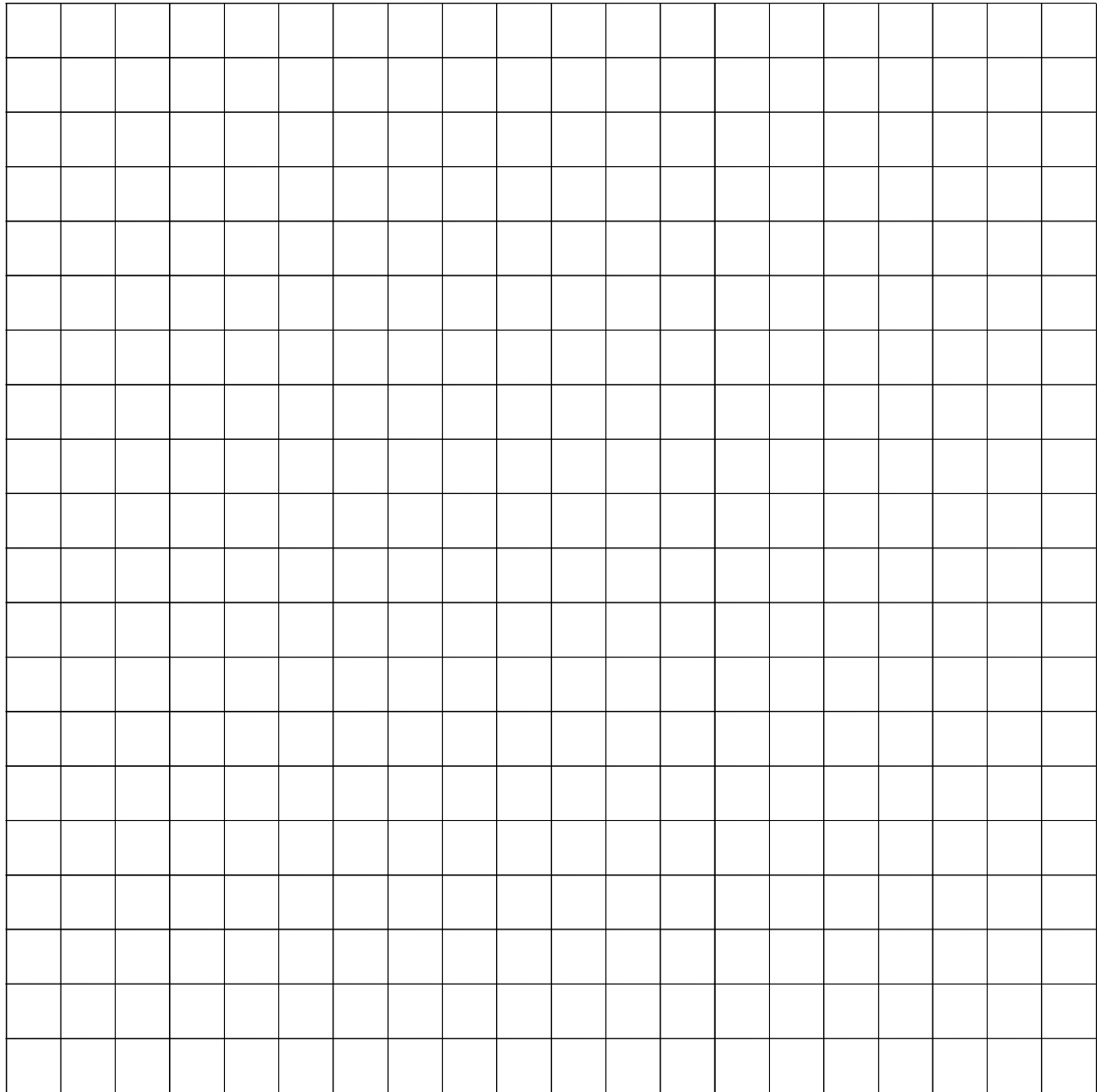
Write an equation that describes how altitude depends upon time hiked. Then solve it for  $t$  to find the inverse function

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Draw a system dynamics diagram that shows how altitude depends upon time hiked.

Write a statement describing how altitude depends upon time hiked.

Make a graph of how altitude depends upon time hiked.



Explain the strengths, weaknesses, and limitations of your model.

Compare your answers with the others in the class.

Who had the steepest slope to hike on?

Who had the least steep slope to hike on?

What would it mean if the altitude changed and the time did not?