Student:________________________________Class:______________Date____________

Understanding inverse relations

8. Complete the table to show the inverse relation.

m (minutes)	*t* (dollars)
0	10
1	10.07
2	10.14
3	10.21
4	10.28

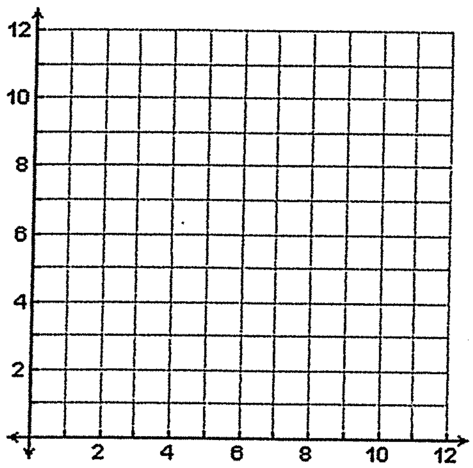
t (dollars)	*m* (minutes)
10	0

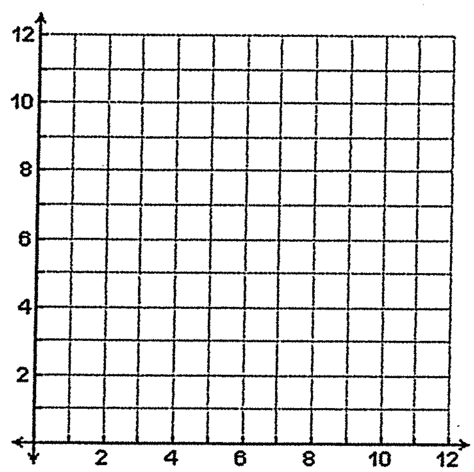
9. Can the inverse relationship in question ~~7~~ 8, where ***t*** is the independent variable and ***m*** is the dependent variable, be modeled by a linear function? Explain.

10. Which strategies would help you find a function rule to model the inverse relation?

11. Write a function rule that expresses ***m*** in terms of ***t***.

12. Graph the original function rule, $t = 10 + 0.07m$, and its inverse, $m = \frac{100}{7}t - \frac{1000}{7}$.





13. How does the graph of the inverse compare to the graph of the original relationship in which the cost depends on the number of minutes talked?

14. What geometric feature do you notice about the two graphs? (Hint: use the animation on page 8 to help you see this feature.)

15. Rewrite the function rule $t = 10 + 0.07m$ by solving for m in terms of t.