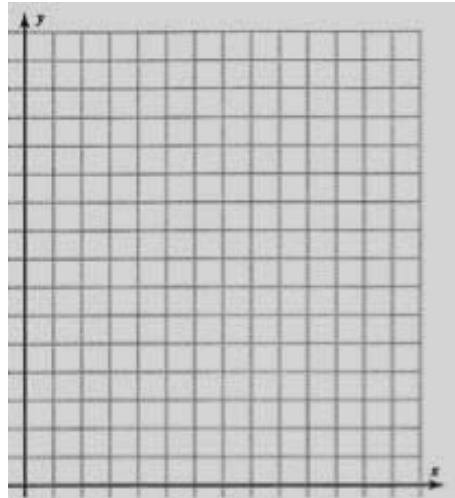


1. A ball is thrown straight up, from 3 m above the ground, with a velocity of 14 m/s. The table shows the relationship between the time since the ball was thrown and the height of the ball.

Time (in seconds)	Height of ball (in meters)
0	3
0.25	6.2
0.5	8.8
0.75	10.7
1	12
1.25	12.7
1.5	12.75

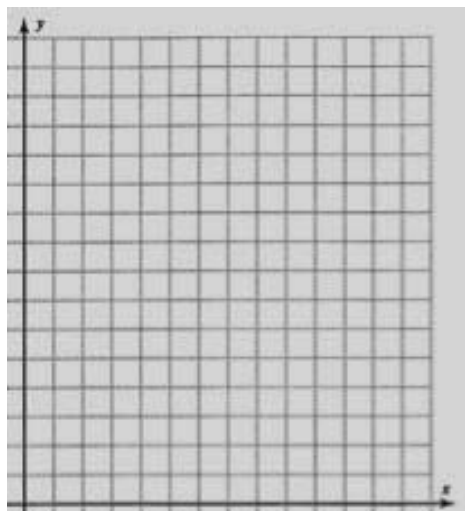
Plot the relationship on the graph.



2. Based on the graph of this data, what type of function might model the relationship between the speed of the car and the length of the skid mark? Explain your reasoning.

3. Use the data in question 1 to make a table showing the relationship between the height of the ball (independent variable) and the time (dependent variable). Make a graph to show this new relationship.

Height	Time



4. What is a <i>relation</i> ?	5. What is the <i>inverse</i> of a relation?
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6. The cost to run a machine that makes widgets has a fixed “set-up” cost of \$240 plus \$50 per hour of production.

a. Create a table that shows the relationship between the total hours of production,  $t$ , and the total cost of production,  $c$ .

Hours machine runs	Cost of running machine
0	
1	
2	

b. Write a function rule that models the this relation.