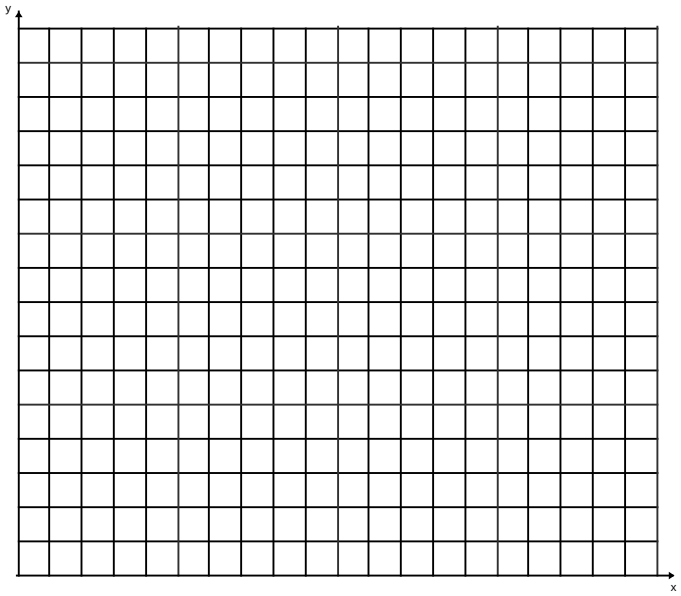
Flying Start Machine 200 m - Race World Record Times

The following data chart shows the world record times for the 200 m race for flying start machines (a kind of bicycle)

Year	Record Time (sec)
1974	10.4
1975	10.0
1976	9.4
1977	9.1
1979	8.8
1985	7.2
1986	6.8
1992	6.5



4. How would you describe the correlation between Year and World Record Times?

5. What is the equation of the line of best fit?

6. What is the slope of the line of best fit?

7. Why is the slope a negative slope?

8. Using the equation of the line, calculate the actual world record time set in 1988.

For each of the following, write the prediction equation and then solve the problem.

9. A student who waits on tables at a restaurant recorded the cost of meals and the tip left by single diners.

Meal Cost	$4.75	$6.84	$12.52	$20.42	$8.97
Tip	$0.50	$0.90	$1.50	$3.00	$1.00

If the next diner orders a meal costing $10.50, how much tip should the waiter expect to receive?

Equation_____ Tip expected_____

10. The table below gives the number of hours spent studying for a science exam (x) and the final exam grade (y).

X	2	5	1	0	4	2	3
Y	77	92	70	63	90	75	84

Predict the exam grade of a student who studied for 6 hours.

Equation_____ Grade expected_____

11. The table below shows the lengths and corresponding ideal weights of sand sharks.

Length	60	62	64	66	68	70	72
Weight	105	114	124	131	139	149	158

Predict the weight of a sand shark whose length is 75 inches.

Equation_____ Weight expected_____

12. The table below gives the height and shoe sizes of six randomly selected men.

Height	67	70	73.5	75	78	66
Shoe size	8.5	9.5	11	12	13	8

If a man has a shoe size of 10.5, what would be his predicted height?

Equation_____ Height expected_____