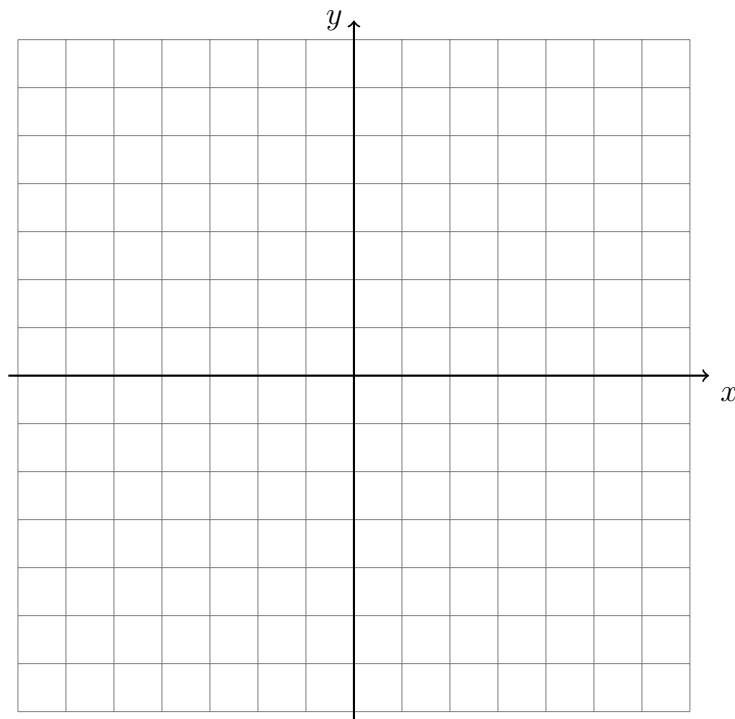


Do Now: Graphing practice

1. Graph the line $y = \frac{3}{2}x - 4$ after filling in the values in the blanks.

y -intercept = _____

Slope = _____



In the following two problems, solve for the value of x .

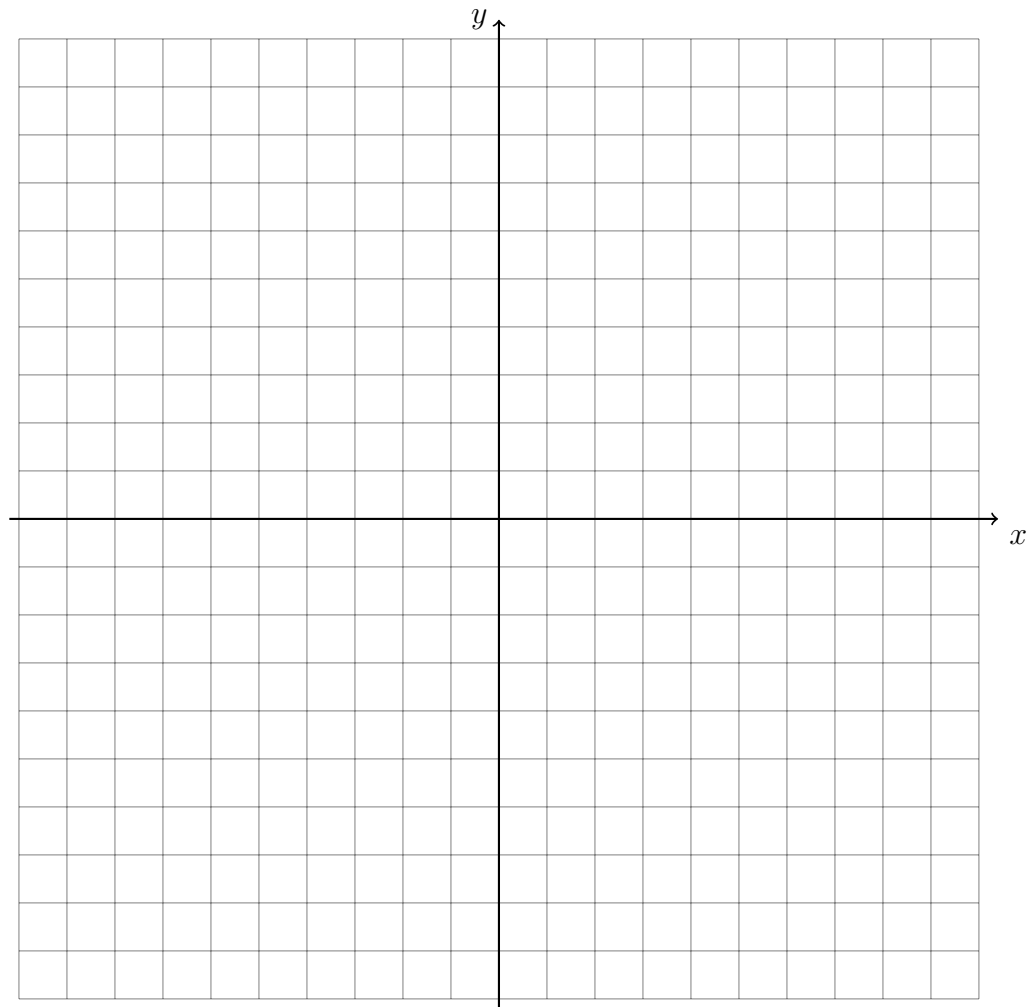
2. $x - 4 = 3x - 4$

3. $\frac{1}{3}(6 - 9x) = -1$

4. Graph the two inequalities. Write an “S” to mark the solution set.

$$y \geq \frac{1}{3}x - 3$$

$$y < -x + 5$$



Solve each equation for y .

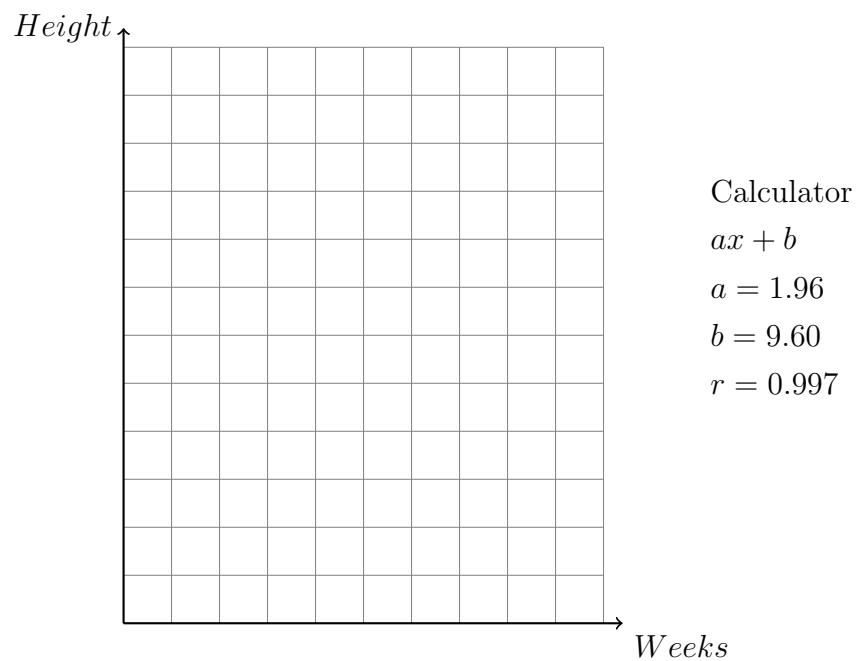
(a) $2x + y = 5$

(a) $3x - 6y = 12$

Fitting linear models and interpreting correlation

5. Dr. Huson is saving money each week in his piggy bank. The amount in his bank after a number of weeks is shown in the table.

Weeks	3	5	6	10
Savings	\$15.00	20.00	21.50	29.00



State, to the *nearest tenth*, the linear regression equation that approximates the savings balance, y , after x weeks.

Explain what the y -intercept means in the context of the problem.

Explain what the slope means in the context of the problem.

6. Simplify the expression $2x + 3(x + 5) + 4$.

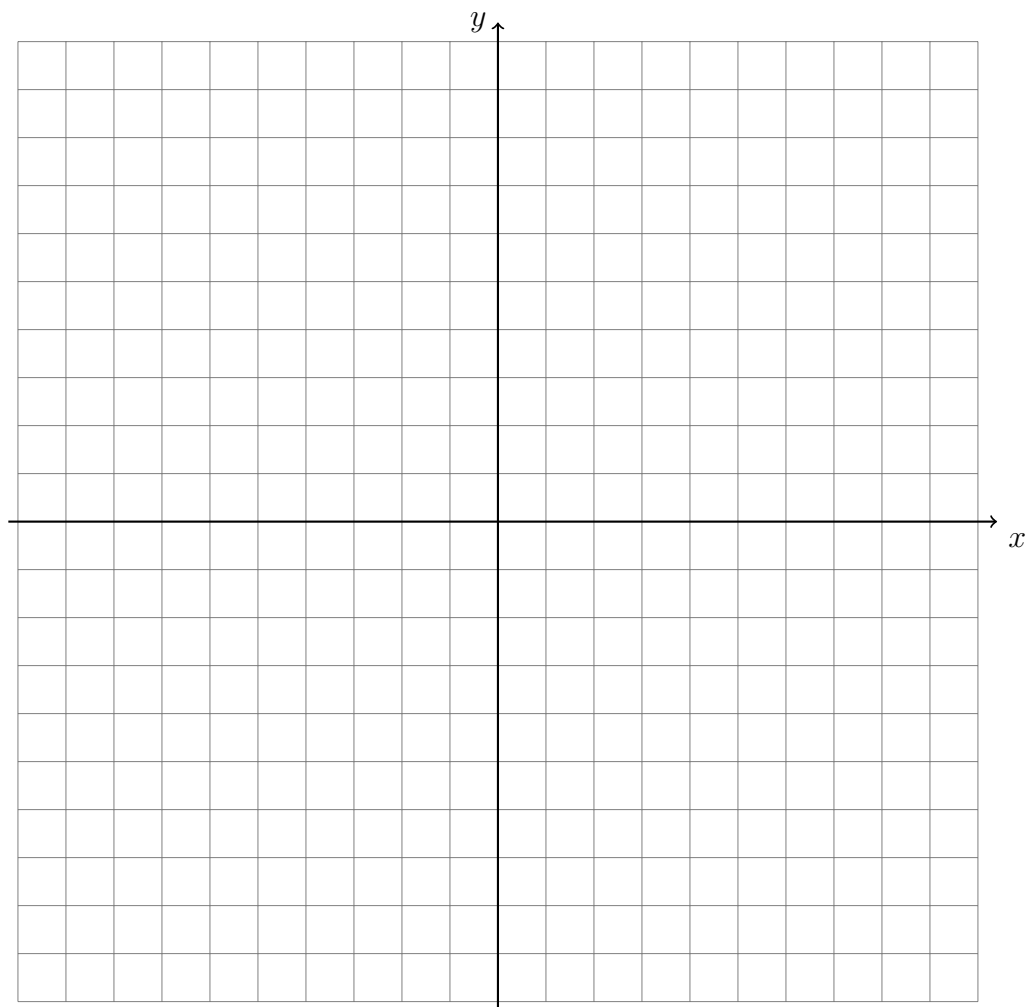
7. Write the expression $3x + 2x^2 - 6x^2 + 9x + 5 + 3x$ as a polynomial in standard form.
8. Write the expression $5x + 4x^2(2x + 7) - 6x^2 - 9x$ as a polynomial in standard form.

Graphing quadratic functions

9. Given the quadratic function $f(x) = x^2 + 1$, find the row differences.

x	$f(x)$
-3	10
-2	5
-1	2
0	1
1	2
2	5
3	10

Graph the function as a line over the domain $-3 \leq x \leq 3$.



Rate of change

10. Find the slope of the function from the ratio of the line differences.

(a)

x	$f(x)$
-2	-1
-1	1
0	3
1	5
2	7

Change in y = _____

Change in x = _____

Slope = _____

(b)

x	$f(x)$
-4	7
-2	4
0	1
2	-2
4	-5

Change in y = _____

Change in x = _____

Slope = _____

11. Find the slope of the function. If the rate of change is not constant, write, "Non-linear. The rate of change is not constant."

(a)

x	$f(x)$
-3	0
-1	2
0	3
1	4
3	6

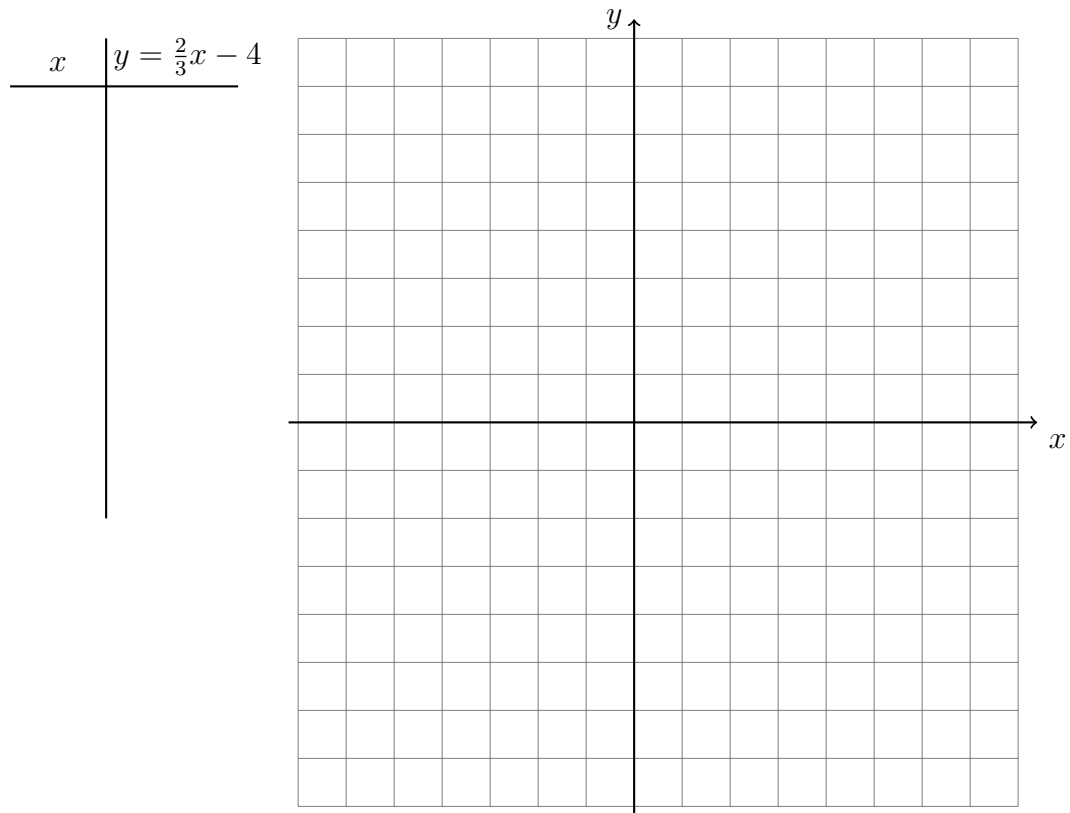
Slope = _____

(b)

x	$f(x)$
-4	-9
-2	-3
0	+1
2	-3
4	-9

Slope = _____

12. Fill in the T-chart, plot the points, and draw the line.



Write down the slope and y -intercept of the line.

$m =$

$b =$

Circle the row for the y -intercept.