

$y = \frac{1}{3}x + b$
 $2 = \frac{1}{3}(-2) + b$
 $2 = \frac{-2}{3} + b$

<u>x</u>	<u>y</u>
-2	2
1	3

$y = \frac{1}{3}x + \frac{2}{3}$

$x - x$
 $\frac{2}{3} - 3$
 $\frac{-2}{3} - 1$

$\frac{2}{3} - 3 = -\frac{7}{3}$
 $\frac{-2}{3} - 1 = -\frac{5}{3}$
 $\frac{2}{3} - 3 = -\frac{7}{3}$
 $\frac{-2}{3} - 1 = -\frac{5}{3}$

$$y = mx + b \rightarrow \text{slope intercept}$$

$$\frac{y - y_1}{x - x_1} \rightarrow \text{slope}$$

$(x - (-3)) \rightarrow (x + 3)$ $x - (-5)$
 $x + 5$

$$y_2 = y_1 + b(x_2 - x_1) \rightarrow \text{point slope}$$

$(x - x_1)$

$$y = 3 + 4(x - 5) \rightarrow \text{slope } 4$$

$$y = 1.9 + 2(x + 3.1) \rightarrow \text{point } (5, 3)$$

$$y = y_1 + b(x - x_1)$$

$$y = 8 + 6.6(x + 5)$$

$$6.6 \quad (-5, 8)$$

$$y = 9 + 7(x - 3)$$

$$7 \quad (3, 9)$$

$$x - x$$

$$x - x$$

$$\begin{array}{l} \text{~~_____~~ } \quad x = \begin{array}{l} 3 \\ -3 \end{array} \\ y - x \quad y + 3) \\ -1 - - 3 \\ y + 3 \end{array}$$

$$y = y_1 + b(x - x_1)$$

slope 3 point (2, 5)

x_1 y_1

$$y = 5 + 3(x - 2)$$

slope -5 point (1, -4)

$$y = -4 + -5(x - 1)$$

slope = 7 point (-2, 3)

$$y = 3 + 7(x - (-2))$$

$$y = 3 + 7(x + 2)$$

time (m)	Calories
5	568
X 10	Y 591
15	614
20	637

Find slope
write equation
in $y = y + b/x$

$$\frac{10 - 5}{591 - 568} = \frac{5}{23}$$

$$y = 5 + \frac{5}{23}(x - 568)$$

The image shows a handwritten algebraic derivation on a grid background, divided into two columns by a vertical line. The work is written in red ink.

Left column:

$$y = 3 - 2(x - 1)$$
$$y = 3 - 2x + 2$$
$$y = 5 - 2x$$

Right column:

$$y = -5 - 2(x - 5)$$
$$y = -5 - 2x + 10$$
$$y = 5 - 2x$$

Below the equations, the slope-intercept form $y = -2x + 5$ is written twice. An arrow points from the left $y = -2x + 5$ to the circled $y = 5 - 2x$ in the left column. Another arrow points from the right $y = -2x + 5$ to the circled $y = 5 - 2x$ in the right column. The equations $y = 5 - 2x$ in both columns are circled in red.

List slope and Point

$$y = -3.47(x-7) - 2$$

$$y = 5 - 1.38(x-2.5)$$

Write Equation

Slope 3 point (2, 5)

Slope -5 point (1, -4)

Write equation

temp	wind chill
5	-31
10	-24
15	-17
20	-10
25	-3

What equations are equivalent

$$y = 9 - 2(x+2)$$

$$y = 7 - 2(x+1)$$

$$y = 0 - 2(x-2.5)$$

$$y = -9 - 3(x-7)$$