Section 7.3: Linear Functions
In Class Notes

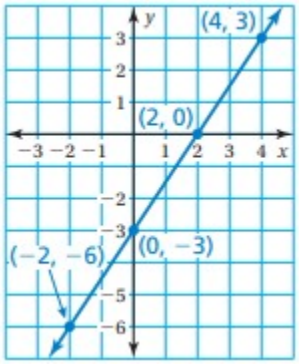
Name: _____

A _____ is a function whose graph is a non-vertical line. It can be written in the form _____ where m is the _____ and b is the _____.

Writing a Linear Function Using a Graph

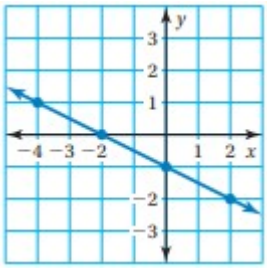
Ex:) Use the graph to write a linear function that relates y to x.

Notes:



OYO:) Use the graph to write a linear function that relates y to x.

Notes:



Writing a Linear Function Using a Table

Ex:) Use the table to write a linear function that relates y to x.

Notes:

x	−3	−2	−1	0
y	9	7	5	3

OYO:) Use the table to write a linear function that relates y to x. Notes:

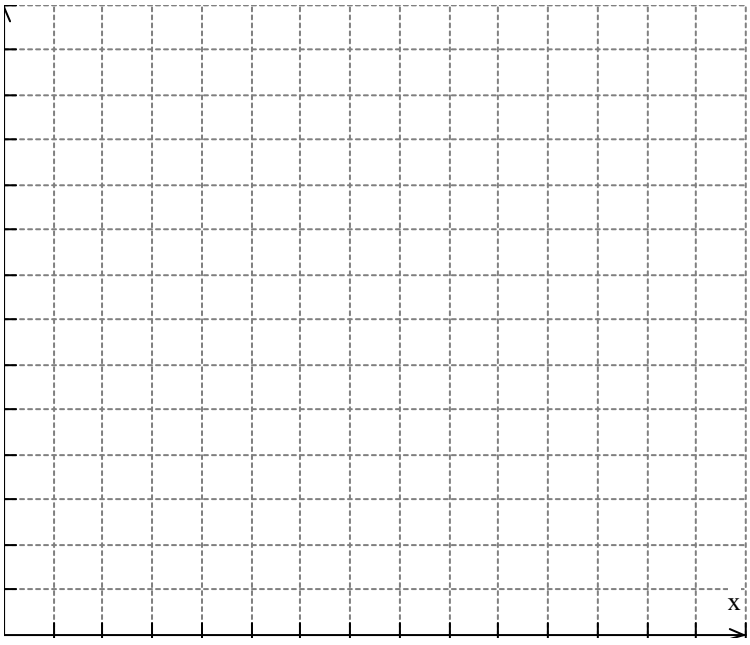
x	−2	−1	0	1
y	2	2	2	2

Interpreting a Linear Function

EX:) An unmanned aerial vehicle (UAV) is used for surveillance. The table shows the height y (in thousands of feet) of the UAV x minutes after it begins to descend from cruising altitude. Notes:

A. Write and graph a linear function that relates y to x.

Minutes, x	Height (thousands of feet), y
0	65
10	60
20	55



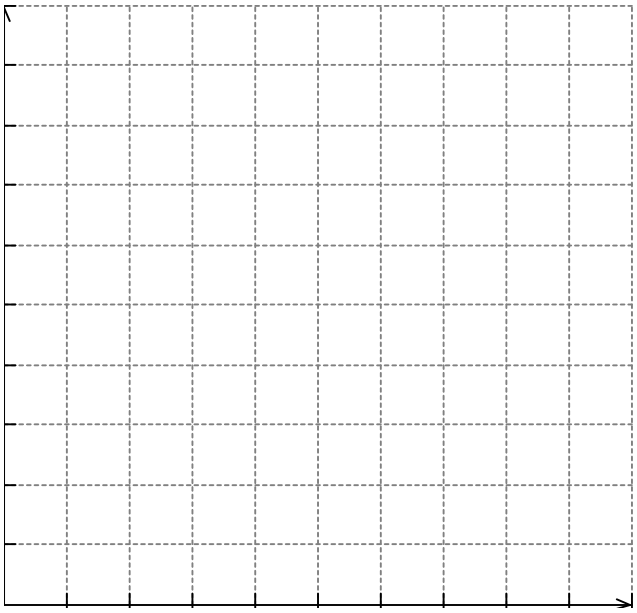
B. Interpret the slope and y-intercept.

OYO:)The table shows the revenue R (in millions of dollars) of a company when it spends A (in millions of dollars) on advertising.

Notes:

Advertising, *A*	0	2	4	6	8
Revenue, *R*	2	6	10	14	18

A. Write and graph a linear function that relates R to A.



B. Interpret the slope and the y-intercept.

Modeling Real Life

Ex:) The cost y (in dollars) of buying x cubic yards of mulch from Company A, including a one-time shipping fee, is represented by the linear function $y = 29x + 30$. The table shows the cost, including the one-time shipping fee, of buying mulch from company B. Which company charges more per cubic yard of mulch? How much more?

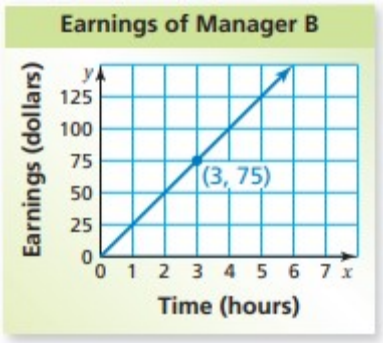
Notes:

Mulch (cubic yards), *x*	Cost (dollars), *y*
1	48.50
2	82.00
3	115.50

OYO:) Manager A earns $15 per hour and receives a $50 bonus. The graph shows the earning of Manager B.

Notes:

A. Which manager has a greater hourly wage?



B. After how many hours does Manager B earn more money than Manager A?