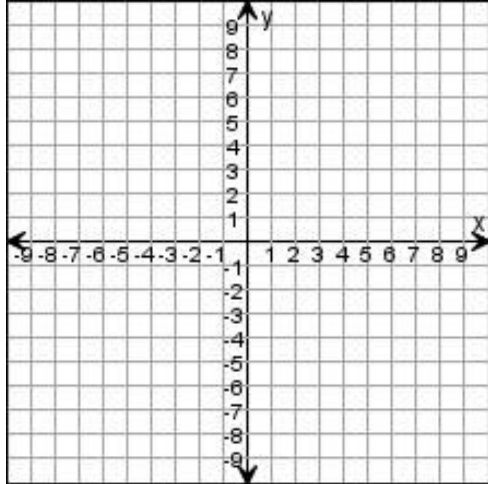
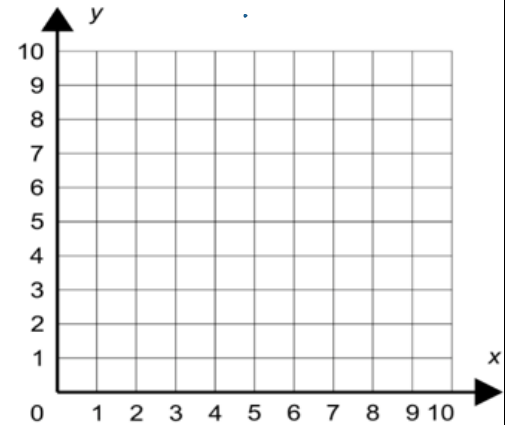


01/16/2025 – Linear Functions**Review of Unit 5 for Grade 7 and Unit 4 for Grade 8 (7A and PreAlgebra) – Fun theme: Skiing**Questions to follow along with show. Watch: [Math Homework Hotline](#)

- 1) Graph $y = \frac{1}{4}x + 3$ on the coordinate plane.
(MA.8.AR.3.4)



- 2) A rental company charges an initial fee of \$2 plus \$3 for each hour the ski poles are rented. Graph the relationship between the number of hours for the rental and the total cost. (MA.8.AR.3.4)



- 3) What is the slope-intercept equation of the line with a slope of $\frac{6}{7}$ and y-intercept of -4 ?
(MA.8.AR.3.3)

- 4) The table shown represents a linear relationship. Using the table, write an equation in slope-intercept form. (MA.8.AR.3.3)

x	y
-2	-8.2
2	-1.8
4	1.4
8	7.8

- 5) Create examples and non-examples of linear functions for various representations: graph, equation, and table. (MA.8.F.1.2)

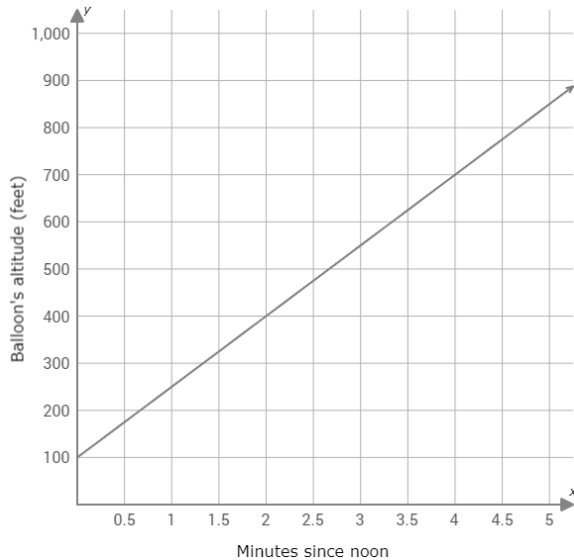
Examples	Non-Examples

- 6) Taro and Jiro climbed a mountain and hiked back down. At the summit and at every station along the way back down, they recorded their altitude and the amount of time they had been traveling. Can the data in the table represent a linear function? (MA.8.F.1.2)

Time Travelled (in minutes)	Altitude (in meters)
0	3776
$29\frac{1}{3}$	3600
126	3020
$179\frac{1}{3}$	2700
231	2390

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- 7) A hot-air balloon is floating over a ski valley. At noon, the pilot increases the balloon's altitude to get a better view. This situation can be modeled as a linear relationship. What does the slope of the line tell you about the situation? (MA.8.AR.3.5)



- 8) Raul bought a sugar maple tree to plant at his house since it withstands cold temperatures. He records the growth over many months and creates the equation $h = 0.21m + 4.9$, where h is the height of the palm tree in feet and m is the number of months. Interpret the slope and y-intercept from his equation. (MA.8.AR.3.5)

- 9) Tyler's family adopted a kitten named Snowball. She grows quickly while she is young, but as she gets older, Snowball's growth gradually slows down. It finally stops when she reaches her adult weight, which remains steady for a long time. Sketch a graph of Snowball's weight over time. (MA.8.F.1.3)

- 10) This morning, Alex wanted to surprise his mom with coffee from the local café. Since it was cold out, he jogged to the café. Once there, he ordered the coffee and waited while it was prepared. He walked home slowly so he wouldn't risk spilling it. Sketch a graph of Alex's distance from the café over time. (MA.8.F.1.3)