

These questions are due by the end of the week. 10/10 points towards your assessment grade if you get them all right and have the math work on paper to back up your work.

You will receive zero points and fail the assignment if you are asked for your work on paper and can not produce that effort. Missing some part of the assignment will cause a loss of that percent of the overall assignment.

These weekly problems cannot be attempted a second time and the work must be turned in on time, not later in the day, not during remediation, and not the next day.

You should work on these problems throughout the week and use down time in class to work with your teams on the solution to these problems.

1a.

Standard A1.2.1

Last summer Ben purchased materials to build model airplanes and then sold the finished models. He sold each model for the same amount of money. The table below shows the relationship between the number of model airplanes sold and the running total of Ben's profit.

Ben's Model-Airplane Sales

Model Airplanes Sold	Total Profit
12	\$68
15	\$140
20	\$260
22	\$308

- A.** Write a linear equation, in slope-intercept form, to represent the amount of Ben's total profit (y) based on the number of model airplanes (x) he sold.

$y =$ _____

1b.

- B.** Determine a value of y that represents a situation where Ben did not make a profit from building model airplanes.

1c.

- C.** How much did Ben spend on the materials he needed to build his models?

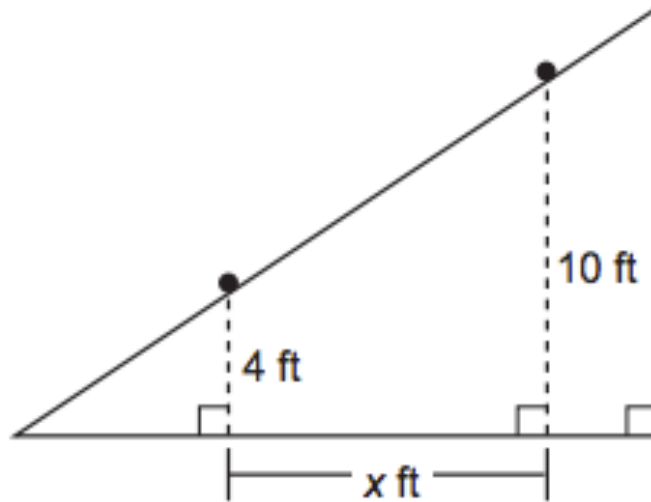
1d.

D. What is the least number of model airplanes Ben needed to sell in order to make a profit?

2.

Standard A1.2.2.1.2

A ball rolls down a ramp with a slope of $\frac{2}{3}$. At one point the ball is 10 feet high, and at another point the ball is 4 feet high, as shown in the diagram below.



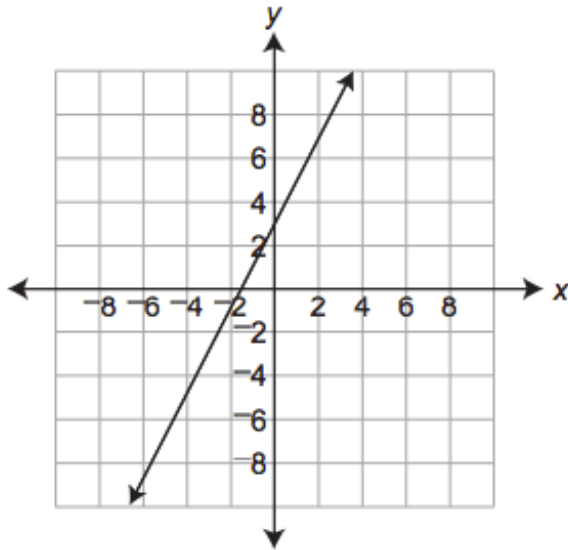
What is the horizontal distance (x), in feet, the ball travels as it rolls down the ramp from 10 feet high to 4 feet high?

- A. 6
- B. 9
- C. 14
- D. 15

3.

Standard A1.2.2.1.3

A graph of a linear equation is shown below.



Which equation describes the graph?

- A. $y = 0.5x - 1.5$
- B. $y = 0.5x + 3$
- C. $y = 2x - 1.5$
- D. $y = 2x + 3$

4.

Standard A1.2.2.1.4

A juice machine dispenses the same amount of juice into a cup each time the machine is used. The equation below describes the relationship between the number of cups (x) into which juice is dispensed and the gallons of juice (y) remaining in the machine.

$$x + 12y = 180$$

How many gallons of juice are in the machine when it is full?

- A. 12
- B. 15
- C. 168
- D. 180