

Notes

Topic 04: Single Equation Real World Problems

We all know that the most famous equation in 8th grade is:

$$y = mx + b$$

The key to using this in real world problems is to understand the relationship between the two variables, “y” and “x”.

Sample Problem:

Mattie is excited about going to a cupcake factory tour. There is an entrance fee of \$15, and each cupcake eaten on the tour costs \$2. Which equation models the relationship between total cost, y, and the number of cupcakes, x, Mattie eats during the tour?

- (A) $y = \frac{x}{15} + 2$
- (B) $y = 15x + 2$
- (C) $y = \frac{x}{2} + 15$
- (D) $y = 2x + 15$

One great way to get the answer is to set up a chart, and use that to find the equation.

X Number of Cupcakes Eaten	Y Total Cost of Visit
0	15
1	17
2	19
3	21
4	23
5	25

For example, if Mattie eats 2 cupcakes, she has to spend \$4 on cupcakes (2 times \$2 each), and \$15 on the entrance fee, for a total cost of \$19.

From this chart, you can see that Option (D) is the only choice that fits!