**Remember the Jelly Bean Challenge from Lesson 1.1???**

Mr. Wright judges the annual Jelly Bean Challenge at the summer fair. Every year, he encourages the citizens in his town to guess the number of jelly beans in a jar. He keeps a record of everyone's guesses and the number of jelly beans that each person's guess was off by.

1. What is the independent quantity?

2. What is the dependent quantity?

The correct number of jelly beans is 250. Complete the table. Then, graph your information. <u>Label both axes on your graph!</u>

Person's Guess	How Many They Are "Off" By
x	$f(x)$
50	
100	
150	
200	
250	
300	
320	
400	
450	
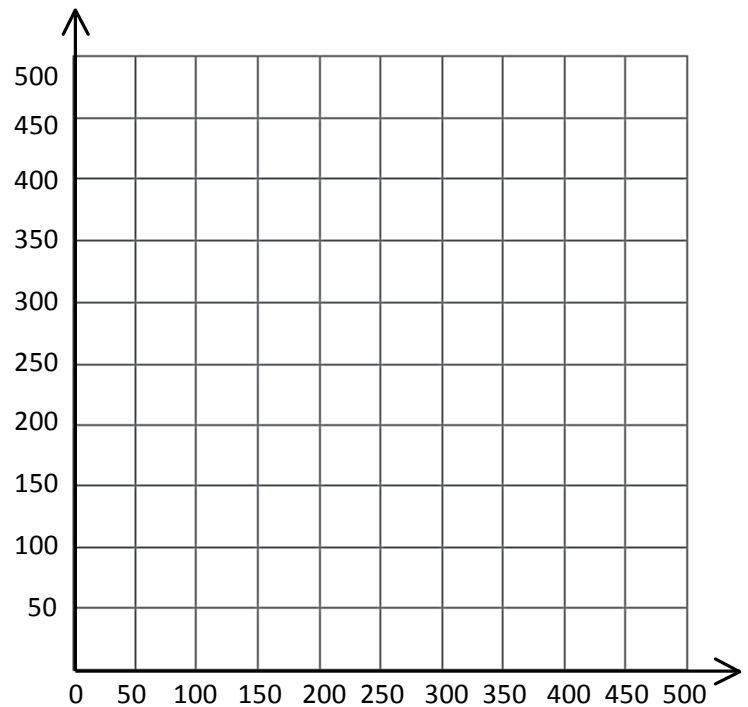
The equation for this situation look like this: $f(x) = |x - 250|$.

What if you were **given** $f(x)$ and asked to find x. How would you solve for x?

A. Suppose $f(x) = 50$. Draw a line at $f(x) = 50$ (or $y = 50$). Hint: draw a box.

B. How would you set up the equation and solve it?

Solve each absolute value equation.

3. $|-7 + a| = 5$

4. $\left|\dfrac{v}{7}\right| = 3$

5. $|3 - 2x| = 11$

6. $|4m - 6| = 6$

7. $7|8 + x| = 28$

8. $-5 + \left|\dfrac{x}{5}\right| = -4$

9. $|3x - 8| = -6$

10. $|8m - 7| = 9$