

# Absolute Value Word Problems

Distance  
or  
change

1. Depending on the size of each song, Luna's phone holds an average of 2000 songs, give or take 250 songs. Write and solve an equation involving absolute value to find the maximum and minimum number of songs that Luna's phone can hold.

middle  
↓

$x =$  actual amount of songs

$$|x - 2000| = 250$$

Formula

$$|x - \text{Avg}| = \text{Vary}$$

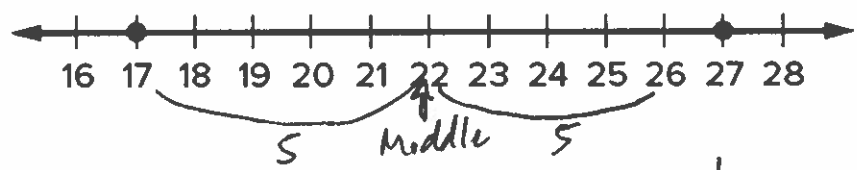
within 2 years

2. Tamika wants to play the "Guess Your Age" game at the state fair. If the guess is not within two years of her actual age, Tamika wins a prize. Tamika is 16 years old. What are the greatest and least guesses that can be made without Tamika winning a prize?

$a =$  the guess

$$|a - 16| = 2$$

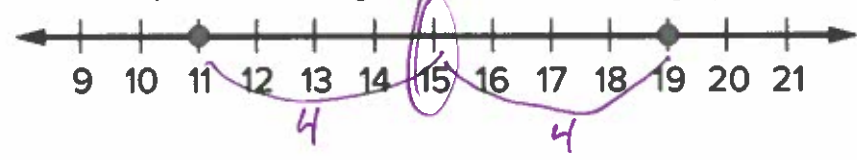
3. Write an equation involving absolute value for the graph.



$x = 17$  &  $27$

$$|x - 22| = 5$$

4. Write an equation involving absolute value for the graph.



$$|x - 15| = 4$$