

**HOMEWORK for Inequalities in the Real World**

***For questions #1-5, write an inequality statement using the variable x to represent each real-world situation below. Then, write 3 possible solutions to each inequality.***

1) Kelsey needs to make more than 20 cupcakes to have enough for her party.

2) Alexa sleeps less than 9 hours per night.

3) Anyone with a temperature greater than 98.6 degrees Fahrenheit has a fever.

4) An electrician can only use wire that is less than one-eighth of an inch.

5) In order to beat the world record in the Nathan’s Hot Dog eating contest, Joey

must eat at least 86 hot dogs in ten minutes.



***For questions #6 and 7, use the information provided to answer each question.***

6) In his job as a salesman, Malik must sell more than 5 cars per week.

 a) If Malik sells 7 cars, has he sold enough for the week?

 b) If Malik sells 5 cars, has he sold enough for the week? Why or why not?

 c) If Malik makes $200 per car sold, how many cars will be needed to sell to make $900?

7) Dimitri is saving money for a vacation to New York City with his family. He needs to save more than $150 to have enough spending money.

1. Write an inequality to represent how much money Dimitri needs to save for his trip.
2. Dimitri works at a pizza place, and makes $10 per hour. How many hours will he need to work to save enough money to have greater than $150?

8) A set has the following values: {1, 3, 5}. Which of the values in this set make the inequality below true?

 ***4x - 1 > 12***



**Class work for Inequalities in the Real World – ANSWER KEY**

***For questions #1-5, write an inequality statement using the variable x to represent each real-world situation below. Then, write 3 possible solutions to each inequality.***

1) Kelsey needs to make more than 20 cupcakes to have enough for her party.

**X > 20 cupcakes**

2) Alexa sleeps less than 9 hours per night.

**X < 9 hours**

3) Anyone with a temperature greater than 98.6 degrees Fahrenheit has a fever.

**X > 98.6 degree Fahrenheit**

4) An electrician can only use wire that is less than one-eighth of an inch.

**X > 1/8 inch**

5) In order to beat the world record in the Nathan’s Hot Dog eating contest, Joey

must eat at least 86 hot dogs in ten minutes.

**X > 86 hot dogs**

***For questions #6 and 7, use the information provided to answer each question.***

6) In his job as a salesman, Malik must sell more than 5 cars per week.

 a) If Malik sells 7 cars, has he sold enough for the week?

**Yes, Malik has sold more than 5 cars in the week.**

 b) If Malik sells 5 cars, has he sold enough for the week? Why or why not?

**No, Malik has to sell more than 5 cars not just 5 cars. In order to meet his weekly goal, he must sell 6 cars.**

 c) If Malik makes $200 per car sold, how many cars will be needed to sell to make $900?

**Malik will need to sell 5 cars in order to make $900.**

7) Dimitri is saving money for a vacation to New York City with his family. He needs to save more than $150 to have enough spending money.

1. Write an inequality to represent how much money Dimitri needs to save for his trip.

 **X > $150**

1. Dimitri works at a pizza place, and makes $10 per hour. How many hours will he need to work to save enough money to have greater than $150?

 **Dimitri will need to work 16 hours to save more than $150.**

8) A set has the following values: {1, 3, 5}. Which of the values in this set make the inequality below true?

 ***4x - 1 > 12***

 **The solution is x = 5**