

# 4<sup>th</sup> Grade Math

# Objectives

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The students will be able to identify the type of bias or other fallacy in a math example by using critical thinking skills.

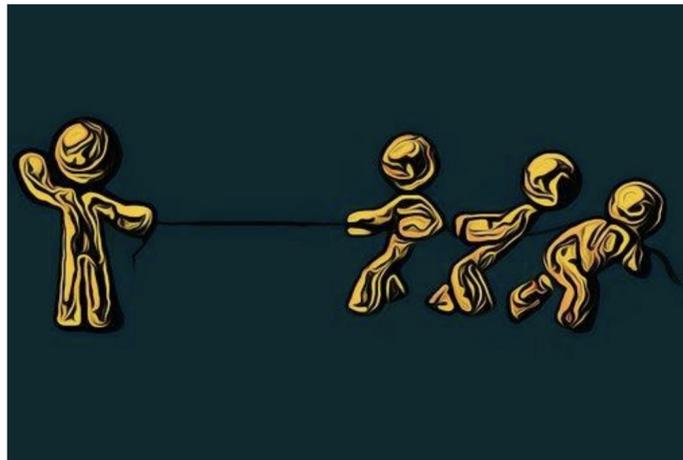
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The students will be able to explain why this example is biased or contains a fallacy.

# 3 main fallacies

## Bias

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## Correlation is not causation

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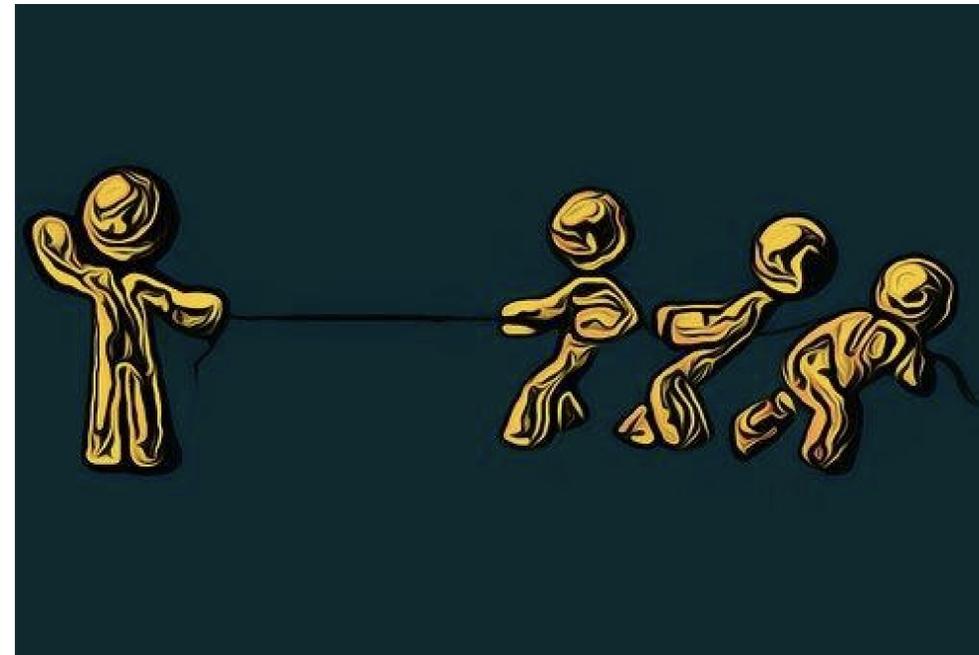
## Random chance

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# Bias

An opinion or thought not based on evidence or experience



# Find Bias

Look in newspaper or magazine articles for bias. Find an example of bias with numbers. Be ready to explain how this bias is a fallacy.



# Bias

An opinion or thought not based on evidence or experience

- Could include a group
- Could include more information or withhold information to persuade the reader

## Math example

There is a sale at a store. The price tag is hidden. Without looking at the price tag, a woman makes a comment that she could afford the small piece of jewelry because she has \$100,000.

Look at the price tag of the small piece of jewelry. Round the price tag to the nearest hundred thousandths to determine if the woman could afford it.



\$999,010.00

# Correlation is not causation

Two or more things are related, but  
one does not cause the other



# Find Correlations!

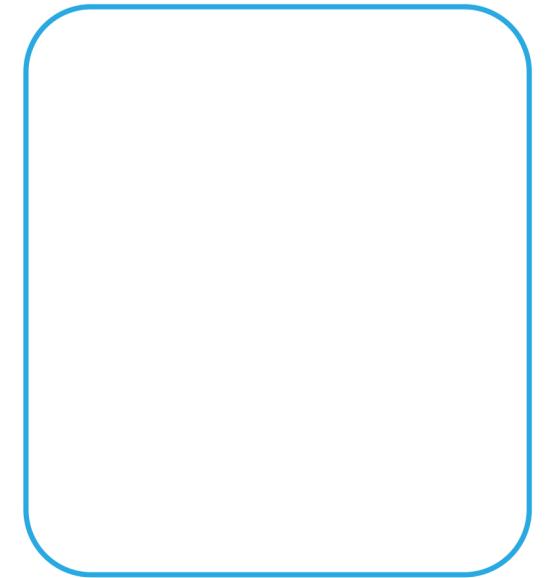
Find two numbers or situations that have something in common with each other. Explain how these numbers are related.



# Correlation is not causation

Two or more things are related, but one does not cause the other.

Math example



“The fraction,  $\frac{5}{8}$ , must be a bigger fraction than the other because both numbers in this fraction are larger than the other fraction,  $\frac{3}{4}$ .”

# Random Chance

A way in which luck or chance occurred for an event to happen with no strategy being involved



# Bingo Chances

Explain how playing bingo is a game of chance. What probability do you have for winning?

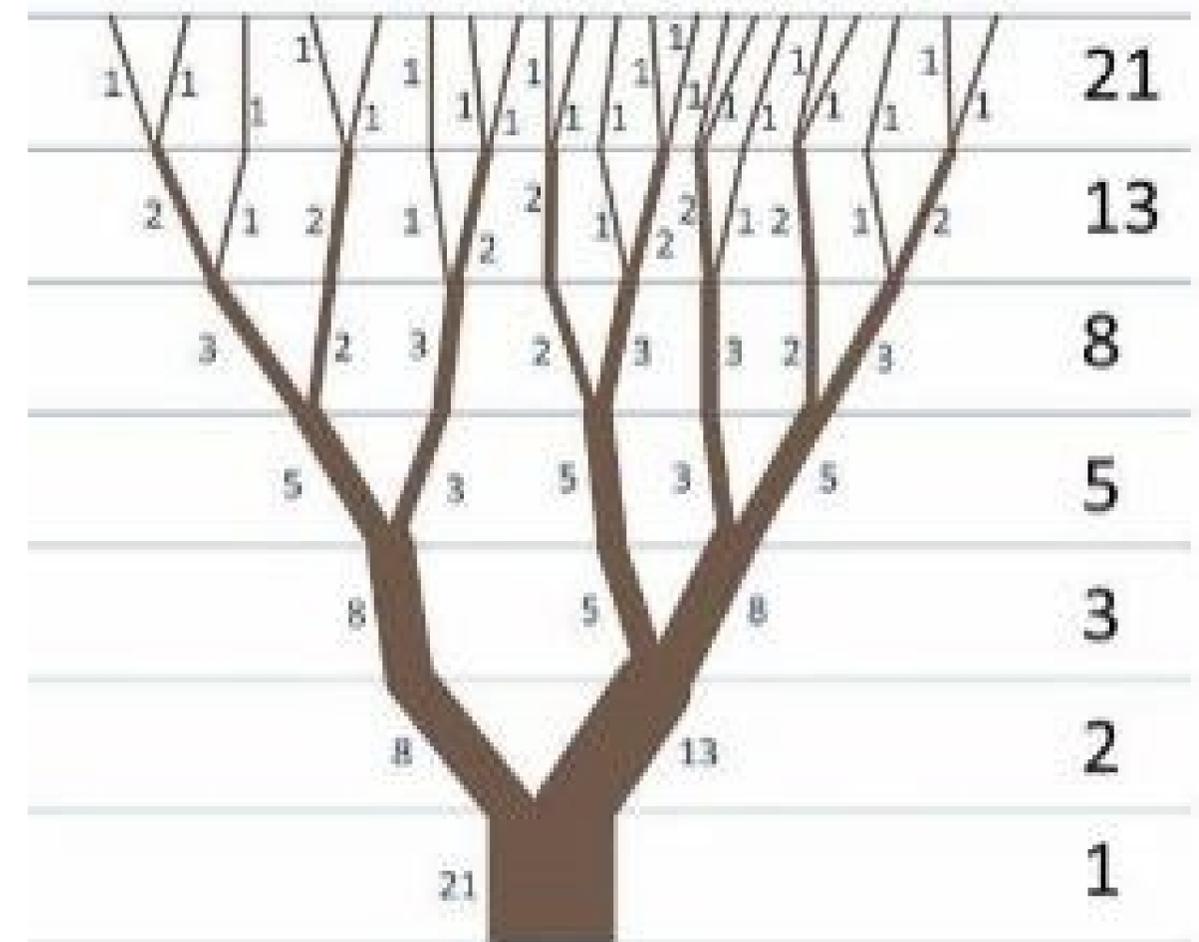


# Random Chance

A way in which luck or chance occurred for an event to happen with no strategy being involved

Math example

Patterns and sequences happen in nature. Look at the picture of the tree and number of branches. What would be the next number in the patterns?

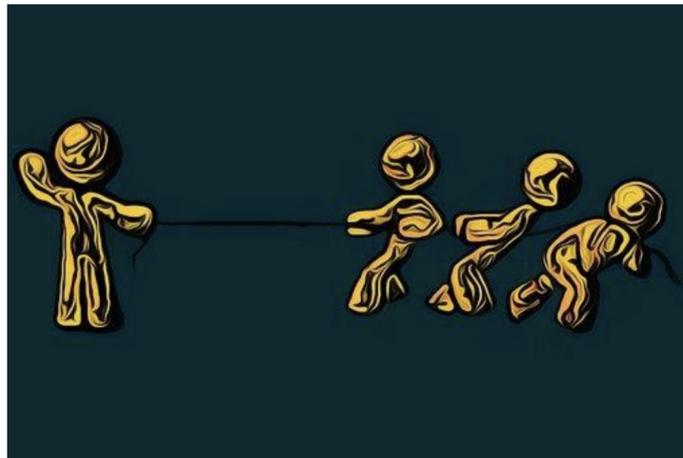


# Review

## 3 main fallacies

### Bias

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### Correlation is not causation

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### Random chance

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