Welcome to

Math Jeopardy

Brought to you by Math Circles

How to Play

- On the Jeopardy Screen we will have 7 categories to choose from, each with questions that can win you $100 to $500 (with increasing difficulty).
- We will use a random number generator to determine the team that will get to pick the first question, from then on the first team to answer correctly picks the next question.
- AFTER I finish reading the question, you have a time limit for you to think about it as a team
    - For 100 – 400 level questions, 90 seconds
    - For 500 level questions, 2 minutes

Rules of the Game

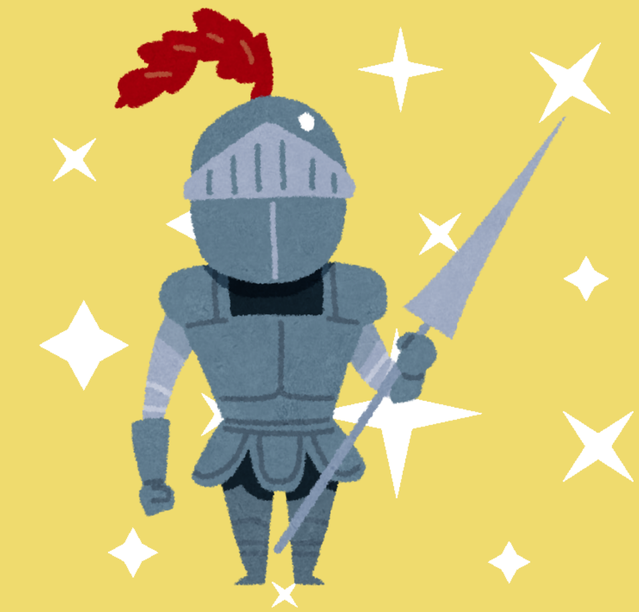
1. You will be playing in teams of 5 people, each with a whiteboard and a marker.
2. To answer a question write your answer on the whiteboard and raise it to the instructor.
3. The first team to get the correct answer gains full points, and all other teams to answer correctly gain half points.
4. Each team only gets one try per question (you will not lose points for answering incorrectly).

The Daily Double

- There are a total of 4 Daily Doubles hidden around the board
- If you pick a “Daily Double” slide, you can “bet” extra money
  - If your team has 3000 points, you can bet up to 3000 points (or 100, or 373, or 2999 if you want, but no more than 3000)
    - If you have 0 points and pick a daily double, you can bet up to the regular points for that question
    - If you get it right, you win that many points
    - If you’re wrong, you lose that many points

Let's play

Math Jeopardy



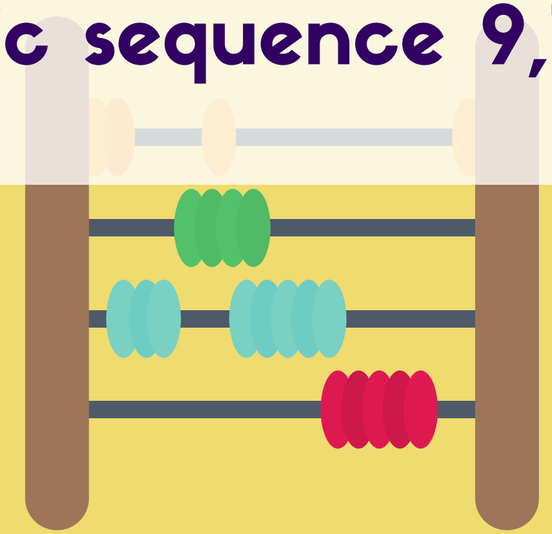
Arithmetic Sequences	Knights and Knaves	Divisibility	Measure-ment & Number Systems	Math Paradoxes	Binomial Coefficient	???
$100	$100	$100	$100	$100	$100	$100
$200	$200	$200	$200	$200	$200	$200
$300	$300	$300	$300	$300	$300	$300
$400	$400	$400	$400	$400	$400	$400
$500	$500	$500	$500	$500	$500	$500

Arithmetic Sequences

$100

Question:

The common difference of the arithmetic sequence 9,17,25,33 ...

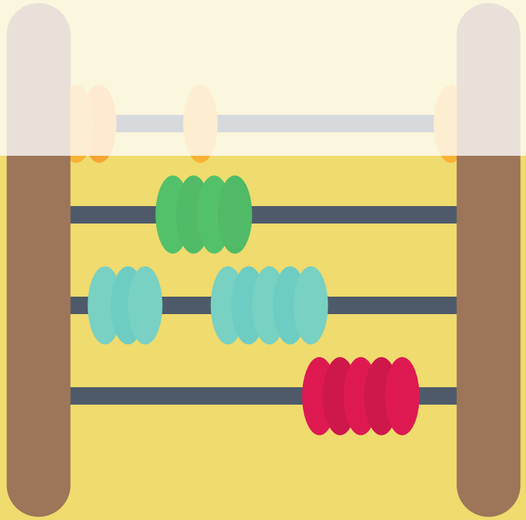


Arithmetic Sequences

$100

Answer:

What is 8?

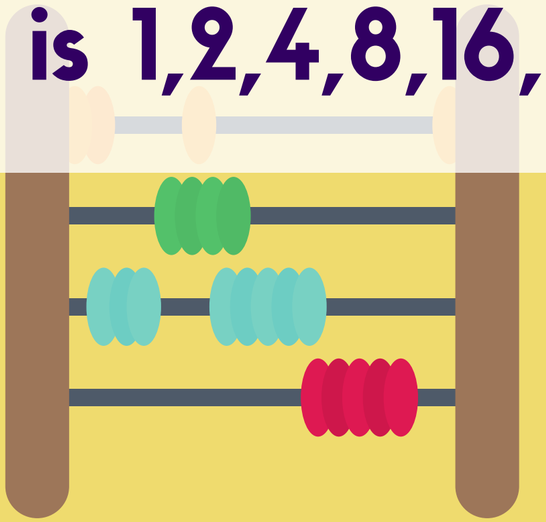


Arithmetic Sequences

$200

Question:

An example of this type of sequence is 1,2,4,8,16,32,64 ...

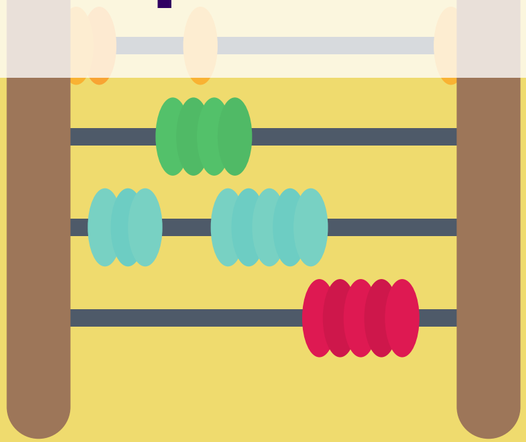


Arithmetic Sequences

$200

Answer:

What is a geometric sequence?

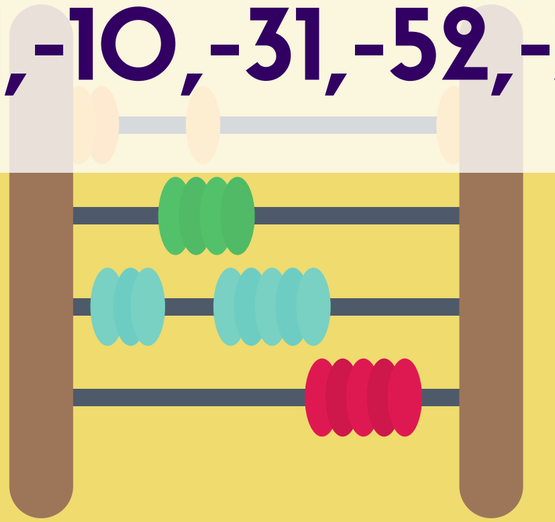


Arithmetic Sequences

$300

Question:

This is the average value of the sequence 11,-10,-31,-52,-73,-94,-115

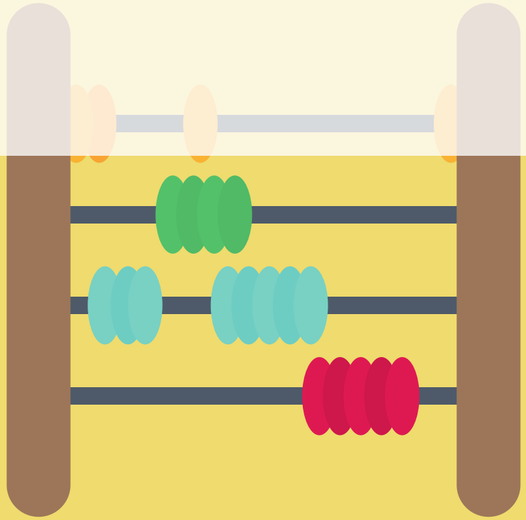


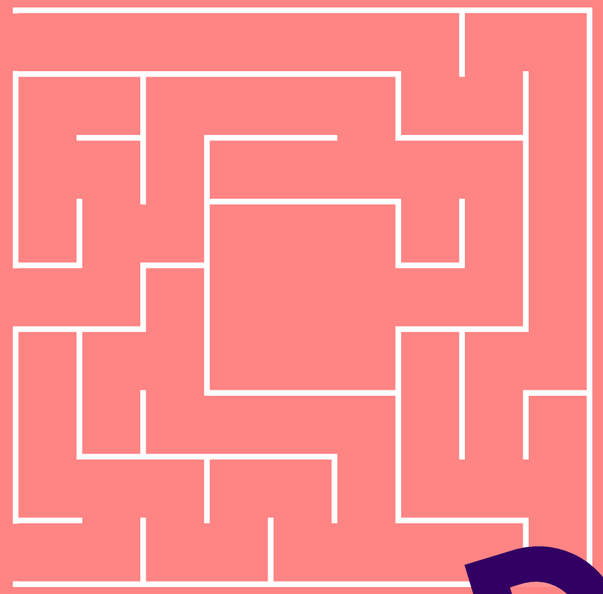
Arithmetic Sequences

$300

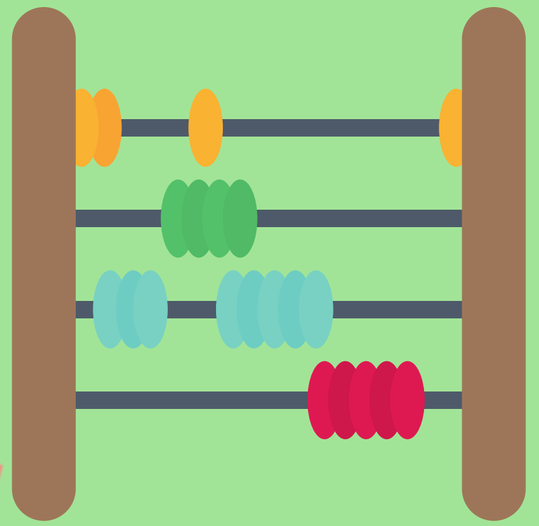
Answer:

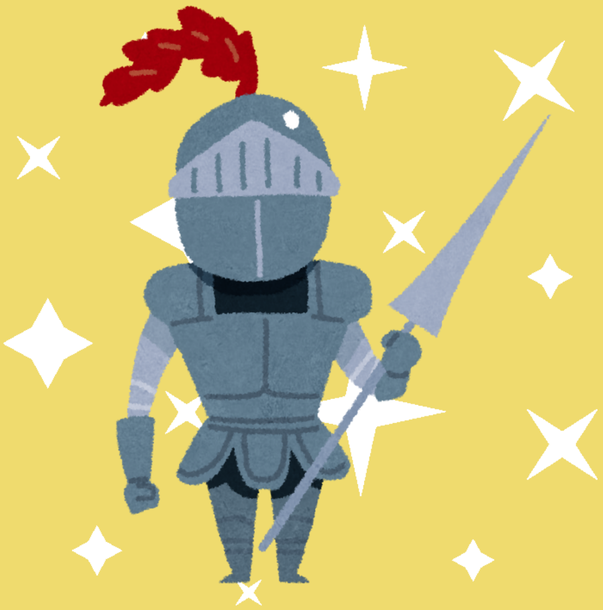
What is -52?





THE Daily Double

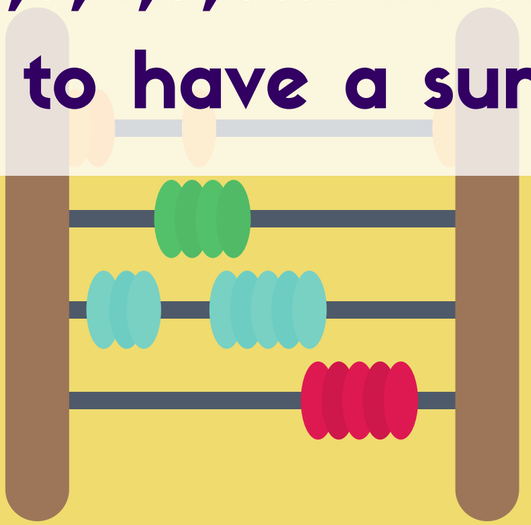




Arithmetic Sequences daily double

Question:

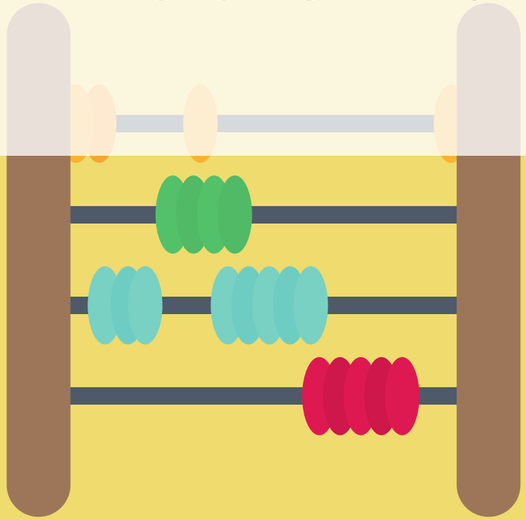
The number of terms we need in the sequence 1,2,3,4,5,6... in order for the sequence to have a sum of 190



Arithmetic Sequences daily double

Answer:

What is 19?

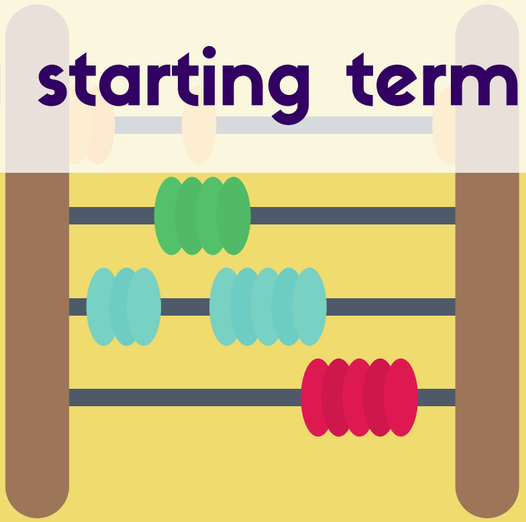


Arithmetic Sequences

$500

Question:

The last term in an arithmetic sequence with 27 terms that has a sum of 2430 and a starting term of 4

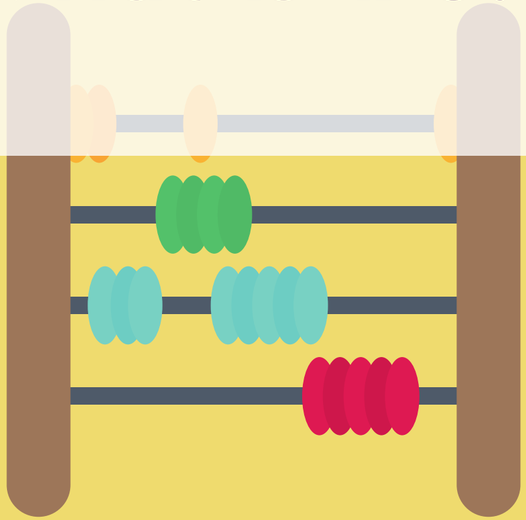


Arithmetic Sequences

$500

Answer:

What is 176?



Knights and Knaves

$100

Question:

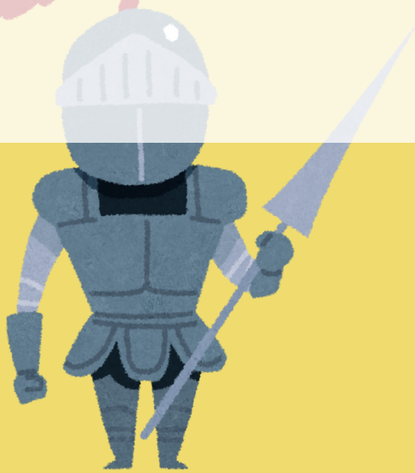
The two values that a Boolean variable can take

Knights and Knaves

$100

Answer:

What is true and false?

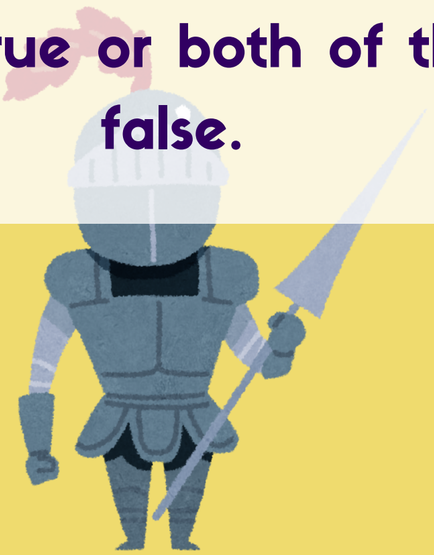


Knights and Knaves

$200

Question:

The four-word phrase in logic that, when used between two statements, means that either both of the statements are true or both of the statements are false.

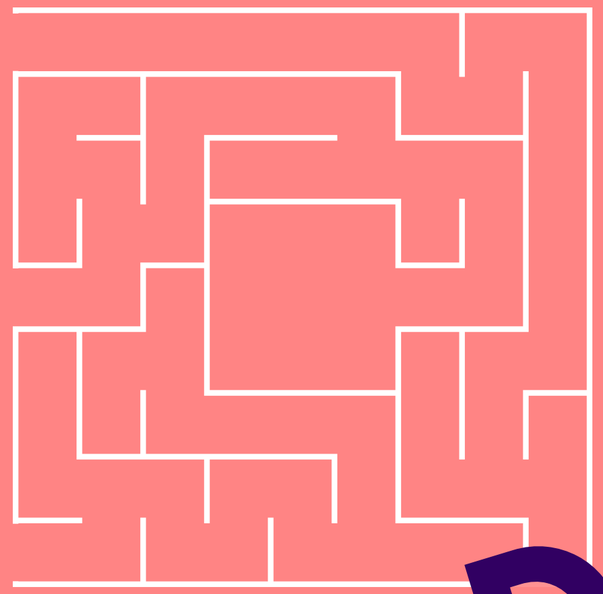


Knights and Knaves

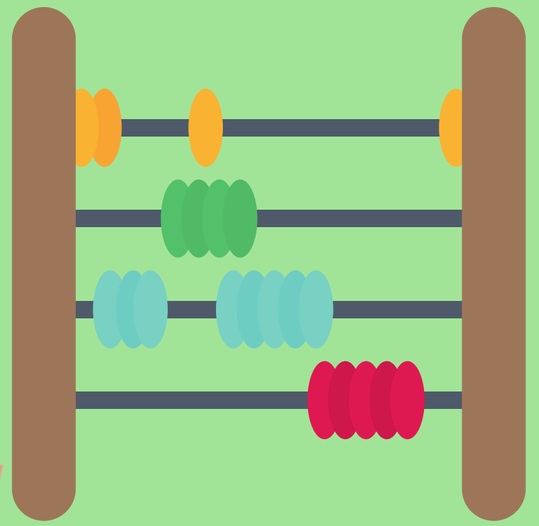
$200

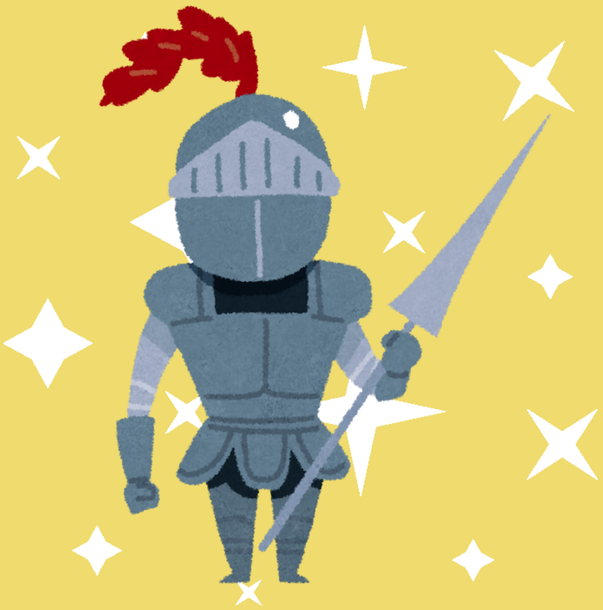
Answer:

What is “if and only if”?



THE Daily Double

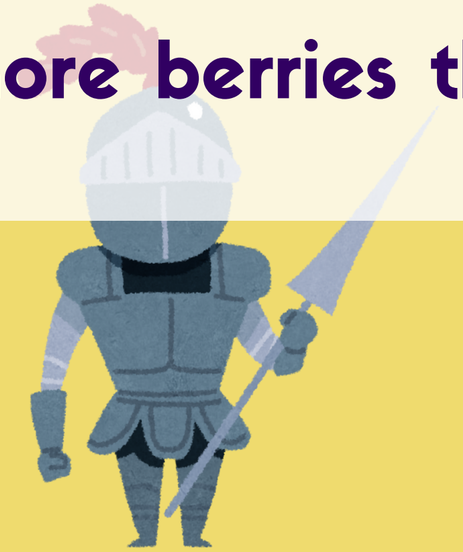




Knights and Knaves daily double

Question:

The negation of the following statement:
"Dakota has more berries than George"



Knights and Knaves daily double

Answer:

What is “Dakota has the same number of or less berries than George”?

Knights and Knaves
$400

Question:

The identity of Ajay and Blaise in the following Knights and Knaves problem.

Two people, Ajay and Blaise, are inhabitants of an island of only Knights and Knaves. Ajay says, "At least one of us is a Knave."

Knights and Knaves
$400

Answer:

What is "Ajay is a Knight and Blaise is a Knave"?

Knights and Knaves
$500

Question:

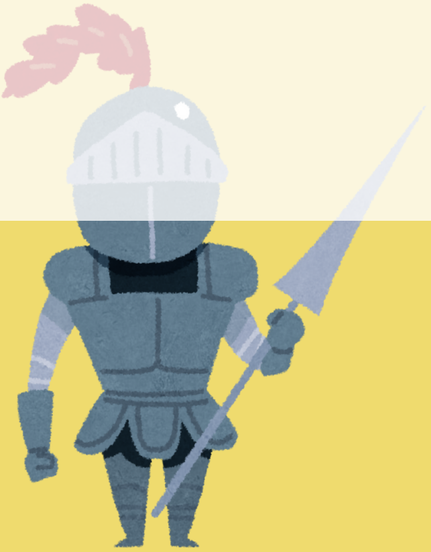
The number of T's that go in the fourth column of the following truth table.

A	*B*	*C*	Exactly one of *A* and *B* is true
T	T	T	
T	T	F	
T	F	T	
T	F	F	
F	T	T	
F	T	F	
F	F	T	
F	F	F	

Knights and Knaves
$500

Answer:

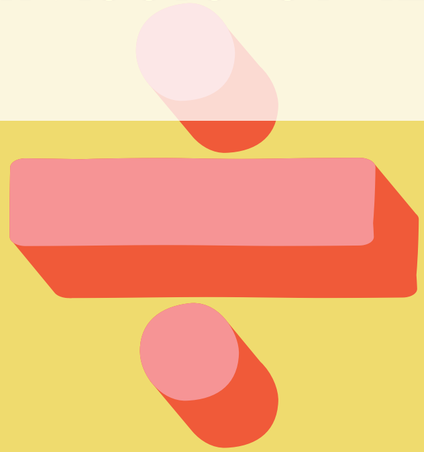
What is 4?



Divisibility $100

Question:

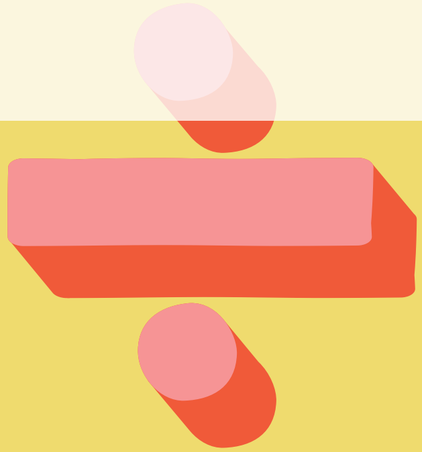
These are all the positive whole number divisors of 12.



Divisibility $100

Answer:

What are 1, 2, 3, 4, 6, and 12?



Divisibility $200

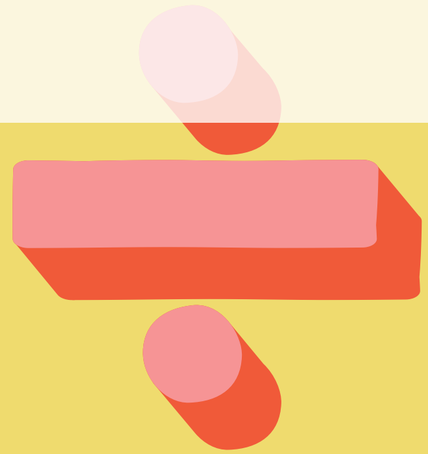
Question:

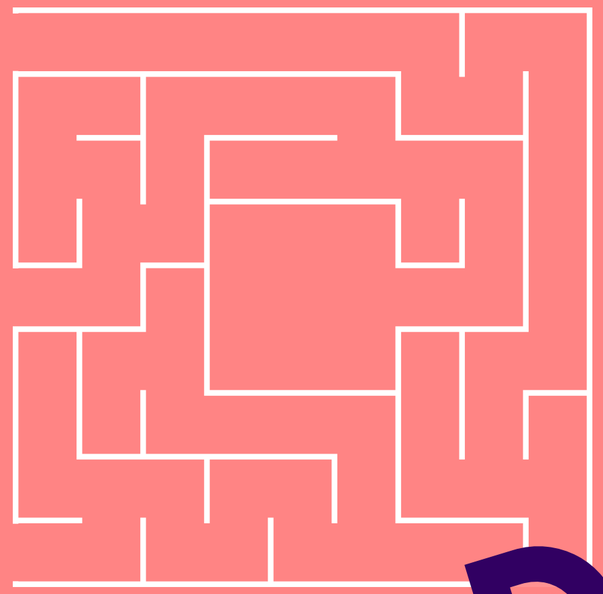
Value that makes the statement 3|27 true.

Divisibility
$200

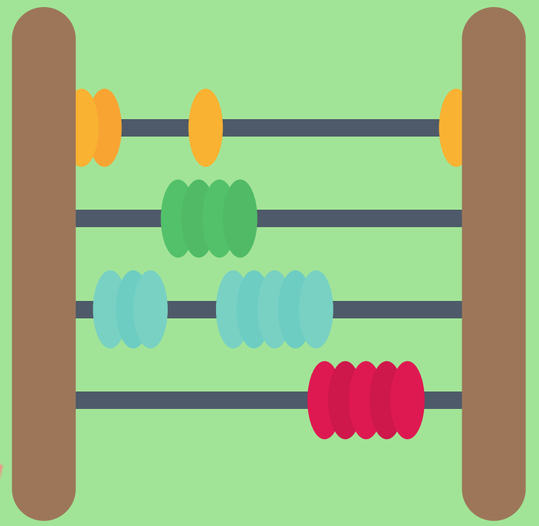
Answer:

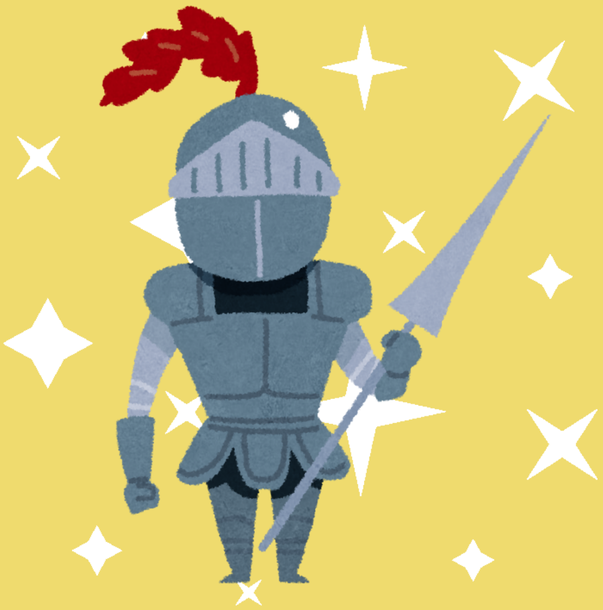
What is 9?





THE Daily Double





Divisibility daily double

Question:

The rule for divisibility by 3.

Divisibility daily double

Answer:

What is if the digits of x add up to a multiple of 3 then 3 divides x?

Divisibility
$400

Question:

The rule for divisibility by 4.

Divisibility $400

Answer:

What is if the last two digits (tens and ones) of x make up a number which is divisible by 4, then 4 divides x?

Divisibility
$500

Question:

True or False; 3|1938736229292746

Divisibility
$500

Answer:

What is False?

Measurement & Number Systems

$100

Question:

The number of feet in one yard

Measurement & Number Systems

$100

Answer:

What is 3?

Measurement & Number Systems

$200

Question:

The number of bits in the binary number 1010101101001O1

Measurement & Number Systems

$200

Answer:

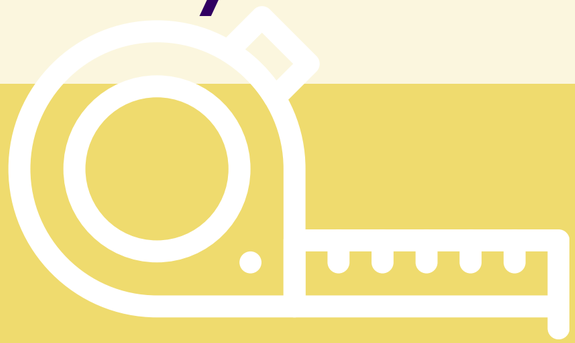
What is 15?

Measurement & Number Systems

$300

Question:

The name of the base 16 counting system



Measurement & Number Systems

$300

Answer:

What is hexadecimal?

Measurement & Number Systems

$400

Question:

The decimal conversion of the binary number 11011

Measurement & Number Systems

$400

Answer:

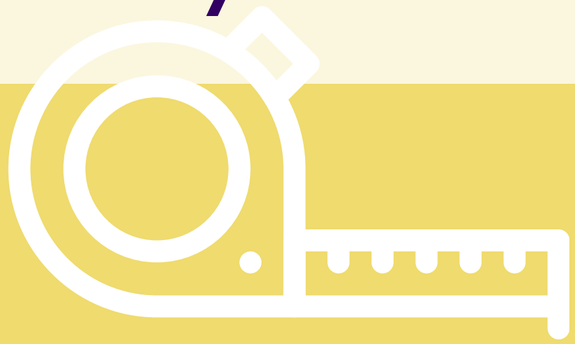
What is 27?

Measurement & Number Systems

$500

Question:

The largest decimal value for a 6-bit binary number



Measurement & Number Systems

$500

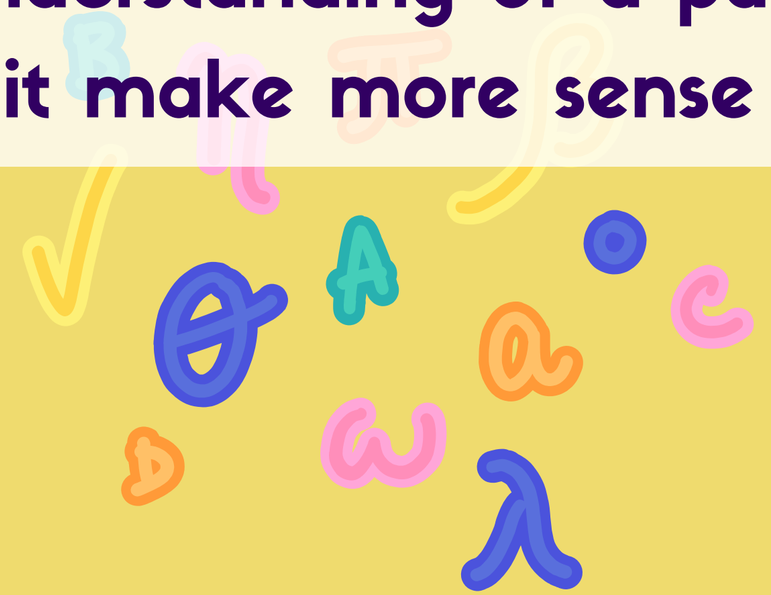
Answer:

What is 2^6 - 1 (or 63)?

Math Paradoxes
$100

Question:

This word means to explain and come up with an understanding of a paradox that helps it make more sense to us.



Math Paradoxes
$100

Answer:

What is to resolve (a paradox)?

Math Paradoxes
$200

Question:

If the radius of Circle A is 5 times the radius of Circle B, then the circumference of Circle A is _____ times the circumference of Circle B

Math Paradoxes
$200

Answer:

What is 5?

Math Paradoxes
$300

Question:

The number of times that an outer coin with the same radius as an inner coin rotates as it rolls around the inner coin.

Math Paradoxes
$300

Answer:

What is 2?

Math Paradoxes
$400

Question:

The common cause of two other variables

Math Paradoxes
$400

Answer:

What is a lurking (or confounding) variable?

Math Paradoxes
$500

Question:

The name of the paradox in which one trend appears when data is grouped and a different trend appears when the groups of data is combined

Math Paradoxes
$500

Answer:

What is Simpson's Paradox?

Binomial Coefficient
$100

Question:

The value of 7!

Binomial Coefficient
$100

Answer:

What is 5040?

Binomial Coefficient
$200

Question:

The value of 9!/7!

Binomial Coefficient

$200

Answer:

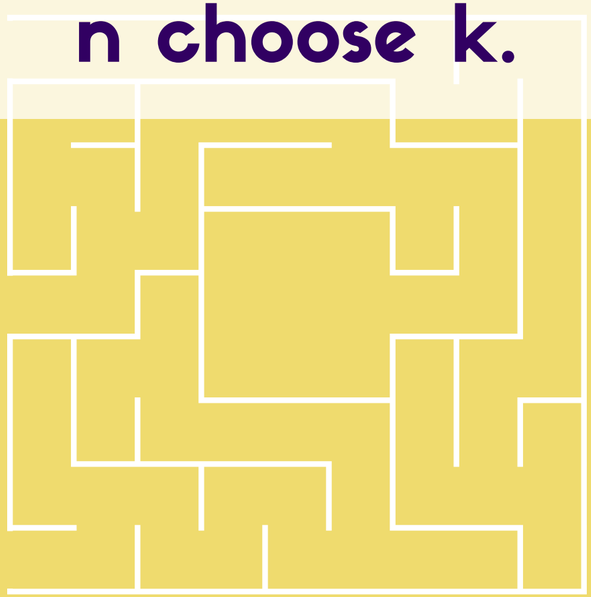
What is 72?

Binomial Coefficient
$300

Question:

The formula of the binomial coefficient;

n choose k.



Binomial Coefficient
$300

Answer:

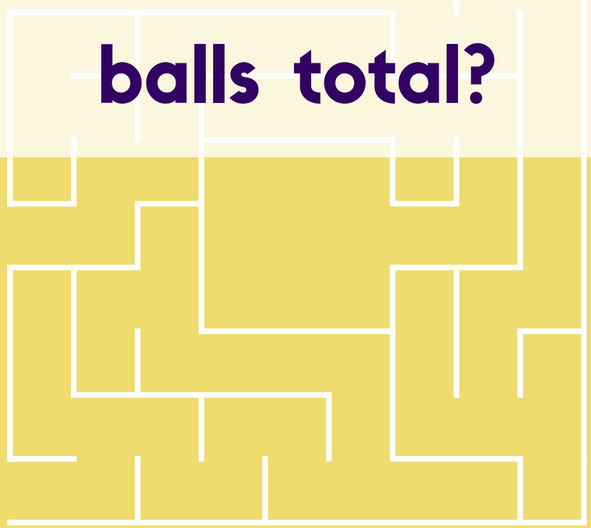
What is n!/k!(n-k)! ?

Binomial Coefficient

$400

Question:

The number of ways you can select 5 distinct balls from a box containing 12 balls total?



Binomial Coefficient

$400

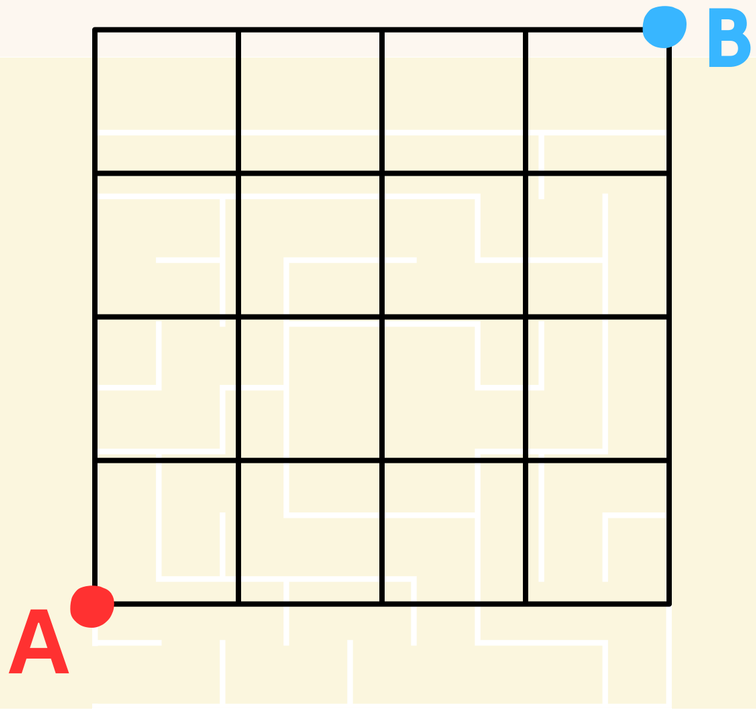
Answer:

What is 792?

Binomial Coefficient
$500

Question:

The number of paths from A to B



Binomial Coefficient

$500

Answer:

What is 70?

Mystery Trivia
$100

Question:

The letter all odd numbers share

Mystery Trivia
$100

Answer:

What is e?

Mystery Trivia
$200

Question:

The only number who had the same number of letters as its meaning

Mystery Trivia
$200

Answer:

What is FOUR (4)?

Mystery Trivia
$300

Question:

The first positive number to contain the letter "A"

Mystery Trivia
$300

Answer:

What is 1000 (one thousAnd)?

Mystery Trivia
$400

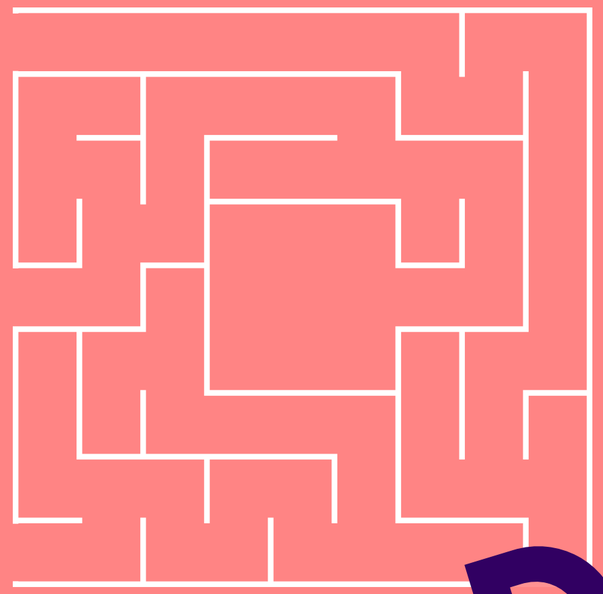
Question:

The only number to be equal to twice the sum of its digits

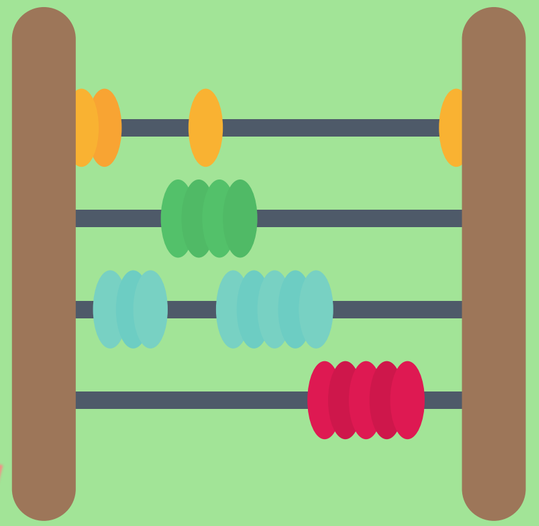
Mystery Trivia
$400

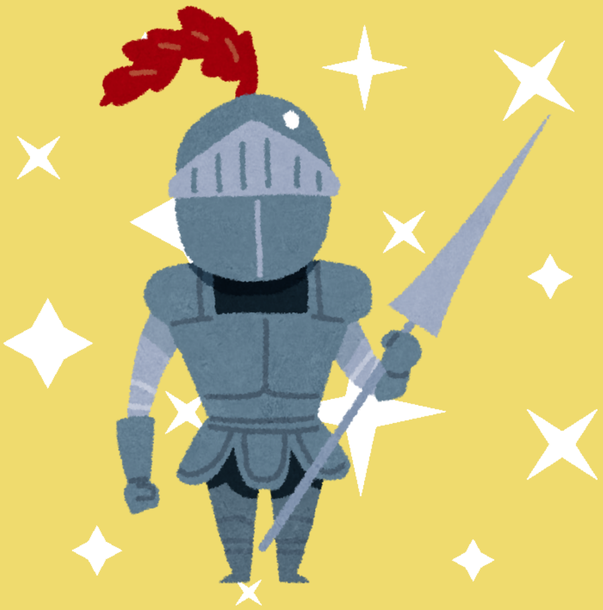
Answer:

What is 18?



THE Daily Double

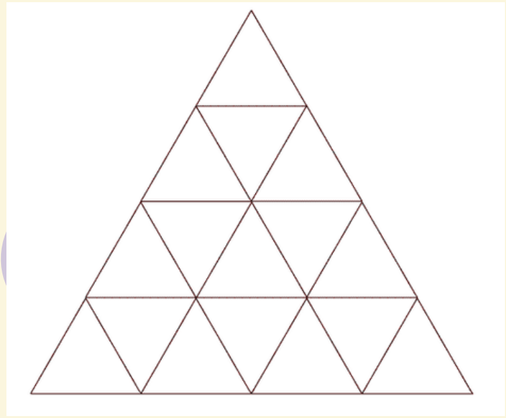




Mystery Trivia daily double

Question:

The number of triangles in this triangle



Mystery Trivia daily double

Answer:

What is 27?