

Determine if a valid conclusion can be reached from the two true statements using the Law of Detachment or the Law of Syllogism. If a valid conclusion is possible, state it and circle the law that is used. If a valid conclusion does not follow, write “no conclusion”.

1. If Jim is a Texan, then he is an American.
Jim is a Texan.
Conclusion: _____
Law of Detachment or Law of Syllogism
2. If Pedro is taking history, then he will study about World War II.
Pedro will study about World War II.
Conclusion: _____
Law of Detachment or Law of Syllogism
3. If Spot is a dog, then he has four legs.
Spot has four legs.
Conclusion: _____
Law of Detachment or Law of Syllogism
4. If Henry studies his algebra, then he passes the test.
If Henry passes the test, then he will get a good grade.
Conclusion: _____
Law of Detachment or Law of Syllogism
5. If the measure of an angle is greater than 90° , then it is obtuse.
 $m\angle T > 90^\circ$.
Conclusion: _____
Law of Detachment or Law of Syllogism
6. If William is reading, then he is reading a magazine.
If William is reading a magazine, then he is reading a magazine about computers.
Conclusion: _____
Law of Detachment or Law of Syllogism

The Mystery Math Ball! A Logic-Based Mystery

You're Invited

to a

"Mystery Math Ball!"

date: to be figured out by you

place: to be figured out by you

hosted by: to be figured out by you

You're invited to a Math Ball, but you don't know when, where, or who is hosting it. Use your deductive reasoning skills and the clues provided to solve the missing information.

Good luck!!!

Mystery Date

	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

When is the "Mystery Math Ball?" _____

Clues:

1. The date is not a multiple of 4 or 5.
2. The date is a multiple of 2.
3. The date is divisible by 6.
4. The date is not a prime number.
5. The date is the greater number of the two possible dates left.

Mystery Place



Where is the "Mystery Math Ball?"

Clues:

1. The house is an even number.
2. The product of the digits in the one's place and the hundred's place is 6. The sum of these two digits is 5.
3. The digit in the ten thousand's place is the difference between the hundred's place digit and the one's place digit.
4. The ten's digit is the greatest single, even digit.
5. The sum of the digits in the ten thousand's place and the thousand's place digit is equal to the digit in the ten's place.

Mystery Host

Ages	18	17	16	15	14
John					
Joe					
Jill					
Janet					
Jim					

Who is the host of the "Mystery Math Ball?"

Clues:

1. Jill is 3 years younger than John.
2. Jim is younger than Joe.
3. Janet is older than Joe.
4. Jill is not 15 years old.
5. Jim is not the youngest person.
6. John is the second oldest person.
7. Joe is 2 years younger than Janet.
8. Oldest is host.