

Math Kangaroo Class Level 3-4

Lesson 9:
Logical Reasoning



Warm Up



Instructions



Logical Reasoning



Exit Ticket

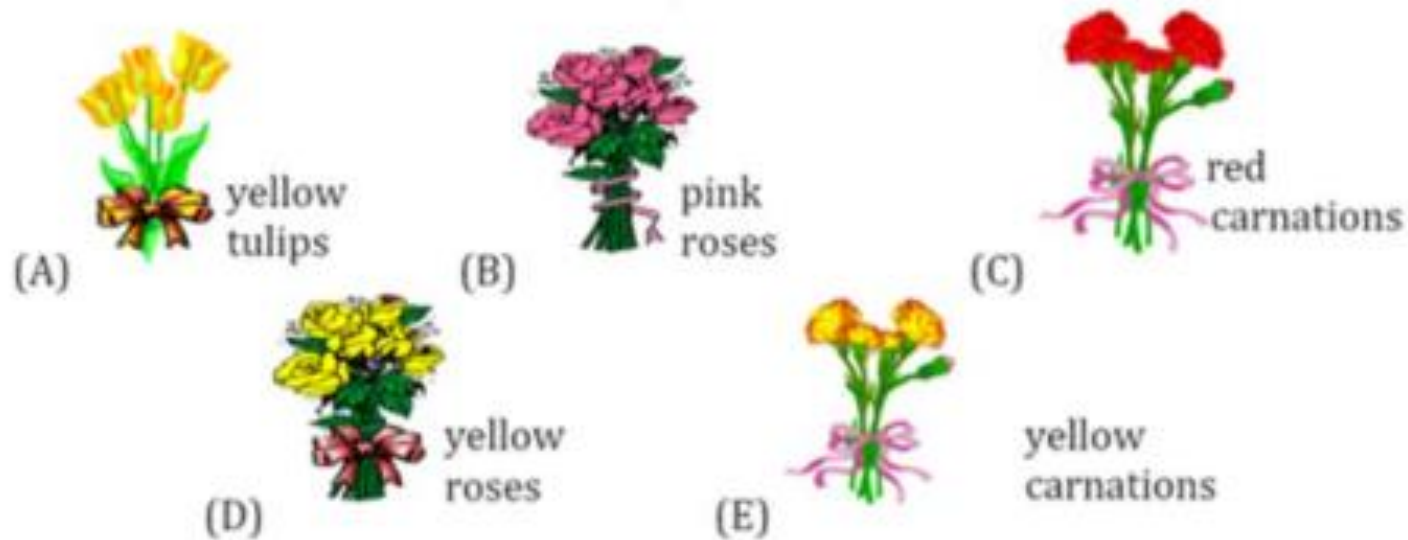


Bonus Slides

Warm Up

MK2008 #3






Luke gave the bouquets of flowers shown below to his mother, grandmother, aunt, and two sisters. Which of the bouquets did his mother receive, if we know that the flowers his aunt and sisters received were the same color, and that his grandmother did not receive roses?
























Logical Reasoning

In logical reasoning, we make conclusion based on the given facts and reasoning. The process may not be that obvious. Sometimes it may require guessing (IF the answer/current stage is this, THEN what will it lead to?). If we get to a situation or result that contradicts the given condition, we can eliminate that answer and step back to make another guess. Other times, we can choose just one of several conditions to give you a list of possible results and then use another condition to reduce its size.

MK 2018 # 10

1. Albert fills the grid with the five figures      . Each figure appears exactly once in every column and every row. Which figure must Albert put in the cell with the question mark?



				
				
				
			?	
				

MK 2014 #18

2. Seven children are standing in a circle. No two boys are standing next to each other. No three girls are standing next to each other. Which of the statements below about the number of girls standing in the circle is true?
- | | |
|------------------------------------|--|
| (A) 3 is the only possible number. | (B) 3 and 4 are the only possible numbers. |
| (C) 4 is the only possible number. | (D) 4 and 5 are the only possible numbers. |
| (E) 5 is the only possible number. | |

MK 2002 # 17

3. Each boy, Mike, Nate, Oliver, and Paul, has exactly one of the following animals: a cat, a dog, a goldfish, and a canary. Nate has a pet with fur. Oliver has a pet with four legs. Paul has a bird, and Mike and Nate don't like cats. Which of the following sentences is not true?


(A) Oliver has a dog

(B) Paul has a canary

(C) Mike has a goldfish

(D) Oliver has a cat

(E) Nate has a dog




MK 2010 # 23

4. Paul, Darius, Micah, and Jeff met at a concert in Chicago, but they came from different cities: Pittsburgh, Dallas, New York, and Washington. We know that:

- Paul and the boy from Washington met in Chicago early in the morning on the day of the concert. They had never been to Pittsburgh or to New York.
- Micah is not from Washington, and he came to Chicago later than the boy from Pittsburgh.
- Jeff liked the concert more than the boy from Pittsburgh did.

What city is Jeff from?



MK 2016 # 21

5. Karin wants to place five bowls on a table in order of their weight. She already placed bowls Q, R, S, and T in order. Bowl T weighs the most.



Where must she place bowl Z?



MK2006 #20

6. Irena, Ann, Kate, Olga, and Elena live in the same two-story house. Two of the girls live on the first floor; three of them live on the second floor. Olga lives on a different floor than Kate and Elena. Ann lives on a different floor than Irena and Kate. Who lives on the first floor?

Bonus Question

MK 2019 # 23

There are five children: Alek, Bartek, Czarek, Darek, and Edek. One of them ate a cookie.

Alek says: "I did not eat the cookie."

Bartek says: "I ate the cookie."

Czarek says: "Edek did not eat the cookie."

Darek says: "I did not eat the cookie."

Edek says: "Alek ate the cookie."

Only one child is lying. Who ate the cookie?