VCTM 2019 Math Beauty Contest

For each problem, be sure to include a paragraph that fully explains your thinking

K – 2:

Please create a pattern that is either a growing or repeating pattern or both. Please be sure to tell what your thinking was by writing a paragraph explaining your thoughts about your creation of the pattern.

Students who are not able to write the paragraph may dictate it to an adult who can write exactly what the student says.

3 – 5:

Tom's school has a carnival once a year on a Saturday. Some people came in cars and some people rode bicycles. John and John's friend, Billy, came in a car with John's parents. Billy and John decided to count the bikes and cars and figure out how many there were of each. They made up a story problem that they could share with their friends and their teacher about the cars and bikes. They saw there were 2 times as many bikes as cars. There were 40 wheels altogether on the cars. How many cars were there? How many bikes were there? How many wheels were there altogether when they added up the wheels on the bikes and the wheels on the cars?

6 – 8:

Many years ago, Bill went to the carnival at his school with his two brothers and two sisters. Bill's mother gave each of the 5 children some money to spend. She made small bags of money for each child. Each bag had the same amount of money and the same coins. There were an equal number of nickels and quarters in each bag. There were three times as many quarters as pennies and dimes combined in each bag. There were 2 more dimes than pennies in each bag. There were 70 coins in each bag. How many nickels were there? How many dimes were there? How many quarters were there? How many pennies were there? How much money did each child get in his or her bag? How much money did Bill's mother give away altogether?

9 – Algebra I:

Mary's family went on a vacation. They went to different places each day. The first 2 days they traveled the same number of miles each day. The 3rd day they traveled 2 times as many miles as the first 2 days combined. On the 4th day they traveled ½ as many miles as they did the first day. On the 5th day they traveled 1/5 as many miles as they had traveled on their first four days combined. They traveled a total of 390 miles on their 5 day trip. How many miles did they travel each day?

Above Algebra I:

During the summer Paul cut grass to earn money. He saved the money he earned because he wanted to buy a computer and a cell phone. He decided to count the money to see if he had enough to buy the computer and cell phone that would cost $1500 altogether. People had paid him with $1 bills, $5 bills, $10 bills and $20 bills. He had 7 times as many $1 bills as $5 bills. He had 4 times as many $10 bills as $1 bills and $5 bills combined. He had 2 times as many $20 bills as $10 bills. How much money did he have? Did he have enough money to buy the computer and cell phone?