

AN INEQUALITY STORY



The KMS physics club took a field trip to Carowinds. Upon arriving the science teacher purchased tickets for the group. There were 45 students in the group and 10 adults. Each ticket cost \$25.

Upon entering the gate, Maddie and Alexis immediately ran to the new roller coaster where they saw no fewer than 80 people standing in line. The ride can hold from 2 to 28 passengers. After waiting for less than 10 minutes, they got their turn on the roller coaster. The highest point of the roller coaster is no more than 91 feet and the speed gets up to 50 mph. The ride took less than 2 minutes.

The temperature on this day was at least 80°F. So the next ride they ran to was a water ride. This ride could hold up to 60 people at a time, so their wait time was less than 5 minutes. After getting soaked on the water ride, they needed to dry off, so they met some friends at the Southern Star. As they approached the ride, they read a sign that said riders must be between 48 and 76 inches tall, therefore their science teacher, Mr. Smith could not ride with them. The students screamed and laughed as the ride was swinging back and forth. After finishing the ride, Mr. Smith explained the physics behind the ride. He stated that the ride reached a maximum speed of 33 mph and a maximum height of 80 feet above the ground when the ride was completely upside down.

Next the students decided to drive the Dodg'ems Bumper Cars. Each car seated two people and there were no more than 30 cars on the track at one time. Therefore everyone in the group and Mr. Smith could ride at the same time. The sign beside the ride noted that riders had to be at least 48 inches tall to drive the bumper cars; they did not have to worry about this rule.

1. Read the story and as you are reading underline, circle, or highlight phrases that represent inequality relationships.
2. Choose five inequality phrases and translate them to numeric and/or algebraic symbols.
3. Share and compare your inequalities with other members of your group.
4. Finish the story using a minimum of 8 more inequality relationships.

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Amusement Park Rides Spec Sheet



DROP ZONE

Height of Tower: 305 feet
Height of Rider at the Beginning of the Ride: 272 feet
Length of Free Fall: 272 feet
Maximum Speed: 72 mph

Merry Go Round

66 Horses
Ride Time: 1 minute, 55 seconds
No Minimum Height Requirement

Action Theater

Length of Pre-Show: 6 minutes
Length of Simulator Show: 5 minutes
Theater Capacity: 148 people

Vortex

Ride Time: 1 minute, 48 seconds
Riders per Train: 24
Maximum Speed: 50 mph
Rider Minimum Height: 54 inches

Thunder Road

Ride Time: 2 minutes, 10 seconds
Number of Trains: 2
Train Capacity: 24 riders
Maximum Speed: 58 mph
Rider Minimum Height: 48 inches

White Water Falls

Ride Time: 2 minutes
Height of Lift: 50 feet
Drop: 45 feet
Number of Boats: 5
Capacity per Boat: 20
Riders must be at least 46 inches tall

Nighthawk

Highest Peak: 11 stories (115 feet)
Maximum Speed: 51 mph
Riders must be between 54 and 81 inches tall
Ride Time: 2 minutes, 47 seconds
Inversions: 8 (More than any coaster in the Southeast)

Ride details gathered from <http://www.carowinds.com/attractions/index.cfm>