

Math Busters

Introduction

You use math more than you think. You are using math in the morning when you figure out how much time you have left before you need to leave for school, and when you judge just how much more of your dinner you have to eat before you are excused.

Learning Objectives

To see how you use math all of the time. Even when you are at a place like Valleyfair!

Materials Needed

Both Math Busters worksheets, a pencil, and your brain! (Ask your teacher if you can use a calculator)

Instructions

1. Figure out what the story problem is asking you to figure out.
2. Use your brain to answer the problems.

Explanation

After this worksheet you will see how you use math at Valleyfair. It will also help you to better manage your spending money while at the park.

Going Beyond

- Come up with some story problems, or other math problems, that relate to amusement parks.
- Make a note every time you find yourself using math during your visit to Valleyfair. It will happen more often than you think!

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1. If you rode the Corkscrew 28 times, how many times would you go upside down?
2. What is the maximum number of people that can go on Steel Venom?
3. How many people can go on Xtreme Swing at one time?
4. Tom and his friend Brady are spending their first day of summer vacation at Valleyfair. Tom wants to go on Xtreme Swing, but Brady wants to go on Steel Venom. They decide to split up, and meet up in the Games Area. Tom and Brady enter the lines at the same time. There are 320 people in line for Xtreme Swing and 315 people in line for Steel Venom. Assuming that it takes the same amount of time to run Steel Venom and Xtreme Swing, who will get to the Games Area first?
5. At Challenge Park, a ride on the Bumper Boats costs \$2.95, Go-Karts are \$3.95, and Mini Golf is \$4.95. You can do the "Triple Play" for \$9.95. If you want to do all three, how much do you save by purchasing the "Triple Play"? Is it worth the money if you want to just do Mini Golf and Go-Karts?

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6. Samantha is visiting Valleyfair for a field trip at school. Her mom has given her \$15 to spend at the park on food, games, and souvenirs. She wants to play 2 games, buy at least one souvenir and her lunch. From the following list, how many ways could she spend her money so that she has none left over?

GAMES

Whack-A-Mole (\$2)
Guess your Weight (\$5)
Break-A-Plate (\$2)
Milk Can (\$1)

FOOD

Burger Basket (\$7)
Pizza & Pop (\$6)
Corn Dog & Pop (\$5)

SOUVENIR

Key Chain (\$2)
Mug (\$5)
Picture on Wild Thing (\$6)

7. a) Molly and her friend Drew are waiting in line to get some pizza from Stadium Pizza & Grill. Since Drew bought Molly a souvenir key chain from their ride on the Log Flume, she is offering to buy his lunch. Molly has \$19 to spend, Drew wants two slices of Pepperoni pizza and a Mountain Dew. Molly wants a slice of cheese pizza and a Pepsi. If a slice of pizza costs \$4.00 and it's an extra \$0.50 for pepperoni, and pop is \$2.50 will Molly be able to afford lunch?

b) Will she be able to afford it she has to add sales tax? (6 $\frac{1}{2}$ percent)

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8. a) You get into the park at exactly 10 am and you have to be back on the bus by 4 pm to go back to school. If you wait an average of 15 minutes to go on a ride (including time to ride) and you spend on average 7 minutes between rides, how many rides will you be able to go on?
- b) How many can you go on if you take 3, 5 minute bathroom breaks, half hour for lunch, 10 minutes for a snack, and an hour to play games?
9. Aubrey and her brother Daniel are on their way to Valleyfair with their parents when they get into an argument. Daniel is making fun of Aubrey because he says she can't go on as many rides as him. Aubrey is 51 inches tall, and Daniel is 56 inches tall. To make Aubrey feel better, her mother tells her that she can actually go on more rides than Daniel, is this true? (Hint: look at the ride height requirements section of a park map)