

# A Problem that Makes People Angry

There is a problem that has become famous because of how angry people have become when they hear the answer. People are sure that the correct answer must be incorrect.

The problem involves three identical doors and a million-dollar prize behind one of them. To win the prize, a contestant merely has to choose the correct door. No one argues that at the beginning of the game, the contestant has a one-in-three chance of winning the prize.

Tempers flare and arguments start at how the contestant can best win at the next stage of the game. In the next stage, one of the doors the contestant did not pick is opened, and it is revealed that the prize is not behind the just-opened door. At this point, the contestant is offered a choice. The contestant can keep his or her original door pick, or he or she can trade it for the other unopened door.

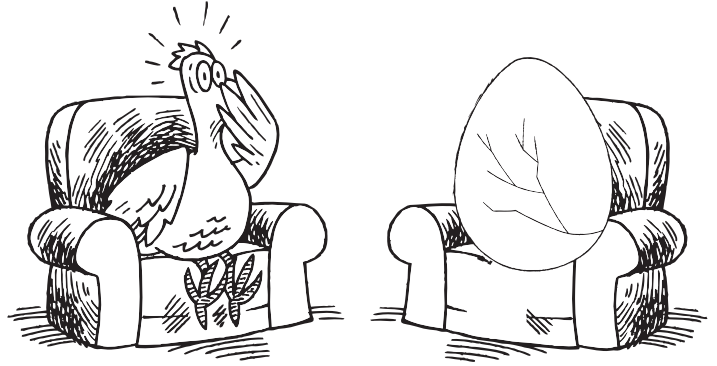
Many people feel that it doesn't matter if the contestant changes doors. The odds of the prize being behind the two remaining closed doors are the same. The fact is that these people are wrong. The contestant has a better chance of winning if he or she switches doors. How is this possible?

If the contestant switches, the contestant would only lose if the prize was behind his or her first pick. But one must remember that with the first pick, the contestant had a greater chance of being wrong than right! The contestant should switch doors because there is a two out of three (greater than half!) chance that his or her first choice was wrong!



# Conundrums

“Class,” Mrs. Benally said, “a conundrum is a difficult problem or question where the answer may only be a guess. A famous example of a conundrum is the question about what came first, the chicken or the egg. Now, I don’t expect you to answer that conundrum, but see if you can answer these.



“People are starving in the Arctic, and despite their desperation and constant hunger pangs, the people will not eat penguin eggs. Why not?”

“A professor is leisurely making his way down the street. Suddenly, he notices the time and realizes he is almost late for his lecture. In his haste to get to class, he picks up his speed, racing around the corner on only two wheels! Despite being spotted by a police officer, the professor doesn’t receive a ticket. Why not?”

“There has been a citywide blackout due to a power failure. Streetlights and stoplights are dark and unlit. A car with broken headlights drives towards a black dog that has just stepped into the street. Despite the lack of moonlight, the car stops in time and avoids hitting the dog. How was it possible for the dog to be seen?”

Clarence said, “I know the solution to the first conundrum. The people can’t eat penguin eggs because penguins live in Antarctica, not the Arctic!”

“The professor didn’t get a ticket because he was riding a bicycle,” Adrianna said.

Sonjay said, “The dog was easily spotted because when it stepped into the street it was the middle of the day!”

“Brilliant and logical answers,” Mrs. Benally said as she nodded approvingly at the class. “I’m extremely pleased with your solutions.”

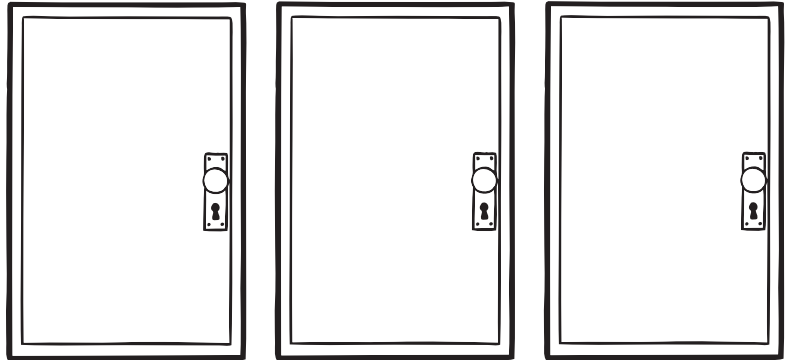
# Show What You Know

The following are questions based on the passages “A Problem that Makes People Angry” and “Conundrums.” If needed, you may look back at the passages to answer the questions.

- 1. Some people feel the correct answer to the door problem is incorrect because they think the**
  - (A) odds are the same for each remaining door.
  - (B) odds are that one door will remain closed.
  - (C) odds are greater than the first pick was wrong.
  - (D) odds are one in three that the first pick was right.
  
- 2. Most likely, the professor did not receive a ticket because**
  - (A) the black dog was not hit.
  - (B) the bicycle’s headlight wasn’t broken.
  - (C) the police officer knew about the lecture.
  - (D) the bicycle wasn’t racing as fast as a car.
  
- 3. What do both stories have in common?**
  - (A) They are both about conundrums.
  - (B) They are both about contestants.
  - (C) They are both about angry people.
  - (D) They are both about famous solutions.
  
- 4. What information was not needed to solve the conundrums in both stories?**
  - (A) where penguins live
  - (B) if the car hit the dog
  - (C) what nights the moon is full
  - (D) how to compare odds or chances
  
- 5. Most likely Mrs. Benally did not expect her students to answer the conundrum about what came first because**
  - (A) the odds were one out of two.
  - (B) she could only guess at the answer.
  - (C) the answer might make some students angry.
  - (D) the students were not gameshow contestants.

# Show What You Know (cont.)

6. Pick a door. On your door, write down the odds for your pick being right and for your pick being wrong.



7. Keep it straight! Fill in the chart with information from the story “Conundrums.”

	<i>Conundrum</i>	<i>Who answered</i>	<i>Solution</i>
1.			
2.			
3.			

Write three or more sentences that tell what each story is about.

8. “The Problem that Makes People Angry”

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9. “Conundrums”

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10. On a separate piece of paper, describe a conundrum and a possible solution. Your conundrum can be a made-up puzzle or something out of real life. If you do not want to think up your own conundrum, describe one of the two below, adding details to the story outline and a solution.

- ❖ *A man is jogging. A storm comes. The man does not have hat or umbrella. Not one hair on man’s head gets wet.*
- ❖ *A lady falls off a very tall ladder. She lands on hard ground. She does not get hurt.*

# Answer Key (cont.)

## Unit 18 (cont.)

7. *Carolina*: Kamala's friend; *Carolina's mom*: uses Post-it notes as reminders; *Kamala*: Carolina's friend: tells Carolina history of Post-it notes; *Spencer Spring*: invents weak adhesive while trying to make strong one; *Arthur Fry*: uses Spring's adhesive on his book markers

## Unit 19

1. B  
2. A  
3. D  
4. D  
5. A  
6. *what*: indigenous tribes; *why*: to keep them safe from cultural contamination or modern world; *who*: FUNAI; *where*: Brazil's Amazon jungle; *how*: low-flying plane  
7. *Yanno and Raoni's world*: a roaring wind, burning fire, thrashing of a crocodile's tail

## Unit 20

1. A  
2. D  
3. A  
4. C  
5. B  
6. *right*: 1/3 (one in three); *wrong*: 2/3 (two out of three)  
7. 1. why starving people don't eat penguin eggs, Clarence, no penguins; 2. why didn't get a ticket when raced on two

wheels, Adrianna, professor on bicycle;  
3. why dog wasn't hit, Sonjay, daytime

## Unit 21

1. B  
2. B  
3. A  
4. C  
5. D  
6. A. Atlantic Ocean; B. England; C. English Channel; D. France  
7. *Dec 5, 1987*: breaking ground, disassembling TBM, Chunnel design; *Feb 19, 1989*: water weight, concrete, claustrophobic working conditions; *September 7, 1994*: feeling proud, buried TBM

## Unit 22

1. B  
2. A  
3. B  
4. C  
5. D  
6. *setting*: hospital emergency room in 1933; *characters*: little girl in accident, Dr. Charles Drew; *problem*: girl needed blood, no immediate supply at hand because no way to store; *outcome*: girl dies, Drew develops way to preserve, store, and collect blood.  
7. *whole blood*: open heart surgery, newborns; *red blood cells*: trauma, anemia, surgery; *platelets*: cancer patients receiving chemotherapy;

*plasma*: massive transfusions, burns;  
*cryoprecipitate*: hemophilia.

## Unit 23

1. C  
2. D  
3. C  
4. B  
5. B  
6. 3: number of Columbus's ships; 7: number of sea turtle species; 200: number of total turtle species; 1492: year Columbus stopped by migrating sea turtles; 1503: year Columbus discovered rookery on Cayman Islands; 60,000,000: number of sea turtles in Caribbean before arrival of Europeans;  
7. 5—Rebecca; 1—Rebecca; 4—Isabella; 2—Isabella; 3—Rebecca.

## Unit 24

1. D  
2. D  
3. C  
4. B  
5. C  
6. a. B; b. second  
7. Car A should be circled.

## Unit 25

1. B  
2. A  
3. C  
4. D  
5. C  
6. sky-blue nose, ears, lips, fingers; homeless; ate at same cafeteria; ate food from same batch; sat at same

table; salted oatmeal with poison from same shaker

7. *Symptoms*: buboes, boils, dark splotches on skin; *Cause*: bacterium; *Spread*: bitten by flea that got from biting rat; *Prevention*: sanitary conditions so no fleas; *Treatment*: antibiotics