SCHOLASTIC

Try Your
THE ⌄HARDEST MATH PROBLEM
STUDENT CONTEST

Ready to show off your math and writing skills? Have your teacher or parent/guardian send us your answer to Challenge 1 by **12/5/22**. If you answer correctly, you'll be invited to enter Challenge 2 for a chance to win great prizes, including a laptop!

Use the Challenge 1 Question Sheet to answer the story problem for your grade.
Want an extra challenge? You can also answer the problem for any grade level above you! Any correct answer for your current grade level or above will make you eligible to enter Challenge 2!

To view the questions, visit: **scholastic.com/HMP**.

My Grade   I'm currently in grade   ❏ 5   ❏ 6   ❏ 7   ❏ 8

My Answer(s)

Grade 6 Problem: _____

Grade 7 Problem: _____

Grade 8 Problem: _____

Optional: My Reasoning Use a separate sheet of paper to explain how you arrived at your answer(s). Be clear, detailed, precise, and creative if necessary! Be sure to write neatly, or type your answer.

CONTACT INFORMATION

Only a student's parent/guardian or teacher can submit entries.

Student's First Name _____ School Phone _____

Student's Last Name _____ School Name _____

Teacher's Name _____ City _____

Teacher's Email _____ State _____

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Try Your

THE HARDEST MATH PROBLEM
GRADE 6

At Solutions Middle School, Ms. Heim's class is branching off from the study of food webs in nature to investigate food access for humans. Her students are dismayed that food insecurity is a reality in the U.S. Two of the students, Aliza and Darius, present their research on a posterboard:
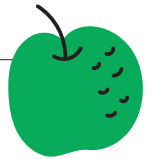
- **Food insecurity** is a lack of consistent access to enough food for an active, healthy life.
- **Causes of food insecurity** include poverty, climate change, health issues, and unemployment. The COVID-19 pandemic worsened food insecurity.
- **Tens of millions of people** live in a food desert, per U.S. census data.
- **Communities respond** by providing food access through multiple pathways.

"What's a food desert?" Ji-Hoon asks.

"Great question," Aliza replies. "A **food desert** refers to an area where it's hard to find fresh, nutritious food—like vegetables, fruits, and meats—at affordable prices."

Darius adds, "Instead, food deserts tend to have processed foods that are high in sugar and fats. That's a health issue."

Solve the Problem

Ji-Hoon and his best friend, Camila, decide they want to take action. Camila points out, "To tackle a problem, we first need to understand its size." **They find the data showing the percentages of food-insecure households in all 50 states as well as Washington, D.C.** "Let's sort the data so we can find the median percentage," Ji-Hoon says. They order the data:

5.7%	6.9%	7.0%	7.9%	8.2%	8.4%	8.4%	8.5%	8.6%	8.8%	8.9%
9.1%	9.2%	9.2%	9.2%	9.6%	9.7%	9.8%	9.9%	9.9%	10.0%	10.0%
10.1%	10.1%	10.3%	10.4%	10.5%	10.5%	10.6%	11.0%	11.2%	11.3%	11.4%
11.5%	11.5%	11.6%	11.6%	11.8%	11.8%	11.9%	12.1%	12.5%	12.6%	13.3%
13.4%	13.8%	14.0%	14.6%	14.8%	15.1%	15.3%				

Source: U.S. Department of Agriculture

SOLVE IT: Use the median percentage of the states to estimate the number of food-insecure household in a school district the same size as Ji-Hoon and Camila's school district, which has 20,000 households. Please round all work to the thousandths place when working out solutions. Round the final answer to the nearest whole number of households.

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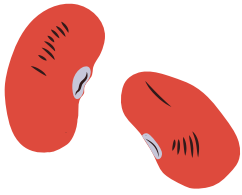
THE *Try Your* HARDEST MATH PROBLEM
GRADE 7

At Solutions Middle School, Ms. Heim's class is branching off from the study of food webs in nature to investigate food access for humans. Her students are dismayed that food insecurity is a reality in the U.S. Two of the students, Aliza and Darius, present their research on a posterboard:
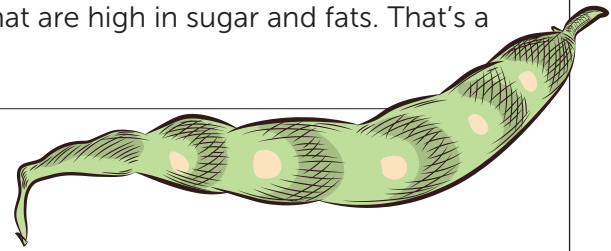
- **Food insecurity** is a lack of consistent access to enough food for an active, healthy life.
- **Causes of food insecurity** include poverty, climate change, health issues, and unemployment. The COVID-19 pandemic worsened food insecurity.
- **Tens of millions of people** live in a food desert, per U.S. census data.
- **Communities respond** by providing food access through multiple pathways.

"What's a food desert?" Ji-Hoon asks.

"Great question," Aliza replies. "A **food desert** refers to an area where it's hard to find fresh, nutritious food—like vegetables, fruits, and meats—at affordable prices."

Darius adds, "Instead, food deserts tend to have processed foods that are high in sugar and fats. That's a health issue."

Solve the Problem

While Ji-Hoon walks home with his best friend Camila, he wonders aloud, "Is there anything we can do *today* to help increase the amount of fresh food in our community?"

"I know!" Camila exclaims. "My uncle Nicolás runs a community greenhouse that provides fresh fruits and vegetables to families at a low cost. Let's head over there and see how we can help."

Nicolás gives the duo a tour and says, **"This year, I want to increase the total production of pinto beans by 15%. Will you help me determine how many acres of pinto beans I have to plant to reach my goal?"**

Last year, Nicolás planted 8 acres of pinto beans, and the crop yielded 2,150 pounds of pinto beans per acre. Nicolás is not sure if the crop will do as well this year. He is cautious and assumes he will only get 2,000 pounds of pinto beans per acre this year.

SOLVE IT: Determine how many acres of pinto beans Nicolás should plant this year given his goals and expectations. Please round all work to the thousandths place when working out solutions. Round the final answer up to the nearest half-acre.

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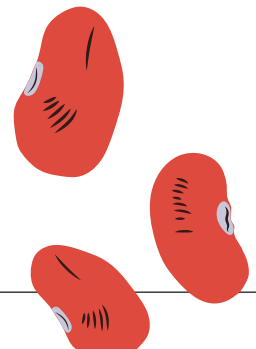
Try Your
THE HARDEST MATH PROBLEM
GRADE 8

At Solutions Middle School, Ms. Heim's class is branching off from the study of food webs in nature to investigate food access for humans. Her students are dismayed that food insecurity is a reality in the U.S. Two of the students, Aliza and Darius, present their research on a posterboard:

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- **Causes of food insecurity** include poverty, climate change, health issues, and unemployment. The COVID-19 pandemic worsened food insecurity.
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Darius adds, "Instead, food deserts tend to have processed foods that are high in sugar and fats. That's a health issue."

Solve the Problem

Ji-Hoon and his best friend, Camila, decide to volunteer at the local soup kitchen, which provides free, nutritious hot meals four evenings a week. Camila eyes the long line of hungry families. "I think we might run out of dinner tonight!"

The director, Ms. Hinojosa, responds that this is a common problem, and she is trying to secure additional funding for more meals. She asks Ji-Hoon and Camila to help her determine the number of additional hot meals that the soup kitchen could serve each of the four nights if the overall food budget was increased by 40% with the following parameters.

The current annual food budget is $70,000; three-fourths of the budget is spent on the hot meals served four evenings per week, and one-fourth of the budget is spent on non-perishable, nutritious snacks that are distributed weekly. The proposed budget would follow the same proportions. The soup kitchen receives regular donations from local merchants. As a result, the projected meal costs that Ms. Hinojosa uses for planning are $0.59 per meal per day for the first 150 meals and $2.72 per meal for each meal over 150 per day.

SOLVE IT: How many additional hot meals can be served each of the four nights each week if the annual food budget is increased by 40% with these parameters? Please round all work to the hundredths place when working out solutions. Round the final answer down to the nearest whole number since it represents a number of hot meals within a budget.

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