

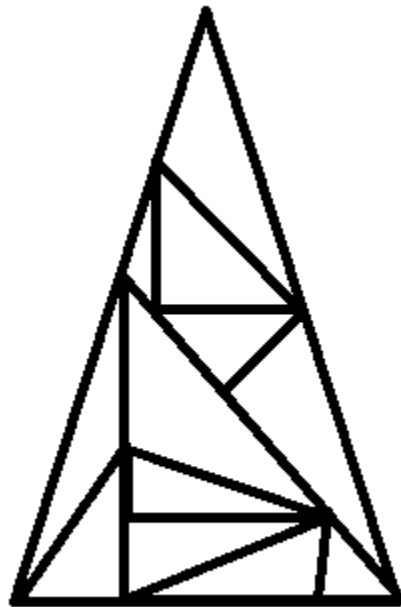
Week #1 Fall 2023



Problem

of the Week

Solution



How many triangles are in the image above?

Solution: 22 Triangles

Week #2 Fall 2023



Problem

of the Week

Solution



A rectangular room in an old house is 4 feet longer than it is wide and 3 feet taller than it is long. A box in the middle of this otherwise empty room has a volume that is half that of the entire room. The box is a perfect cube. How large is the room if the edges of the box touch the a pair of opposite walls?

Solution: The length of the box is 13.132 feet.

Week #3 Fall 2023



Problem

of the Week

Solution



A quarter weighs 5.67 grams, a dime weighs 2.268 grams, a nickel weighs 5 grams and a penny weighs 2.5 grams. What is the smallest amount of money that could be in a jar of coins if the coins weigh a total of 126.416 grams?

Solution: \$3.87

Week #4 Fall 2023



Problem

of the Week

Solution



You are in a corn maze where the corn makes a perfect grid of squares. Each square is 5 feet long and the entire maze is 10 squares by 10 squares. You and your friend Josey are lost. You are standing in the Northwest corner of the maze and Josey is standing in the Southeast corner of the maze. You each plan to walk across the maze and at each corner you plan to randomly choose which direction to travel in (you plan to only travel either south or east and Josey plans to only travel west or north). If you are only able to see in the direction that you are traveling, what is the probability that you find Josey before making it across the maze?

Solution: This one is really hard so I am still working on the solution.

Week #5 Fall 2023



Problem

of the Week

Solution



Hank needs sugar for a oil, but the recipe states that he is to put one gallon of oil into a bowl, then remove $\frac{1}{2}$ a gallon from the oil that is now in the bowl, he is then to add $\frac{1}{3}$ of a gallon of oil, followed by removing $\frac{1}{4}$ of a gallon of oil, adding $\frac{1}{5}$ of a gallon of oil, and removing $\frac{1}{6}$ of a gallon of oil,... forever. Unable to figure out exactly how much oil he needs, Hank decides to purchase the largest amount of oil that will ever be in the bowl. What is this largest amount?

Solution: 1 gallon

Week #6 Fall 2023



Problem

of the Week

Solution



An instructor had a class with only 4 students: Thomas, Billy, Betty, and Annabelle. The instructor did not know the students names, so he asked them. One of the students (Betty) told a lie. The youngest student said “The third oldest student is Thomas.” The third oldest student said “I am not Annabelle!” The second oldest student said “Billy? That’s the oldest student.” The oldest student remained silent. Which student is Annabelle?

Solution: Annabelle is the oldest student

