

## Math Mondays! March 17, 2025

**St. Patrick's Day:** This holiday is celebrated every year on March 17<sup>th</sup> in honor of the patron saint of Ireland. The celebration includes parades, wearing green, lucky four-leaf clovers, leprechauns, and rainbows with a pot of gold. Challenge your students with this St. Patrick's Day problems.

1. A leprechaun's pot of gold grows at a rate of  $y = 30e^{-0.15t}$ , where  $t$  represents time (in days), and  $y$  is the amount of gold in pounds. Jeff claims that the leprechaun will have just under 100 pounds of gold on the 80<sup>th</sup> day. Do you agree or disagree with Jeff's claim? Justify your decision.

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2. A shamrock (clover) is a traditional symbol for St. Patrick's Day. The parade committee is making 1000 shamrocks to give to key participants in the parade. Each shamrock requires 3 inches in height and 3 inches wide. The green fabric cost \$5.75 per square foot. What is the cost to make the shamrocks? Justify your answer.



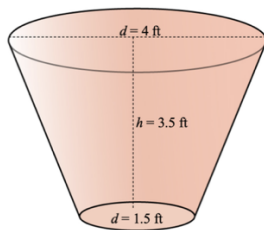
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3. A leprechaun wants to know how much gold can fit in his lucky pot. Figure 1 shows the dimensions of the pot.

**Figure 1:** Lucky Pot



The gold coins within the pot have a diameter of 2 inches and a height of 0.02 inches. How many gold coins can fit within the pot? Justify your answer.

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