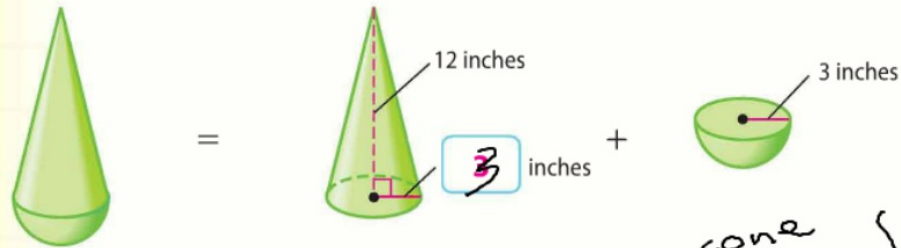


Solve a simpler problem by separating the container into a cone and a hemisphere. Find the volume of each, and then add the two volumes together. Round your answers to the nearest tenth.



Solve How can you apply the strategy?

Volume of the cone = 113.1 in³

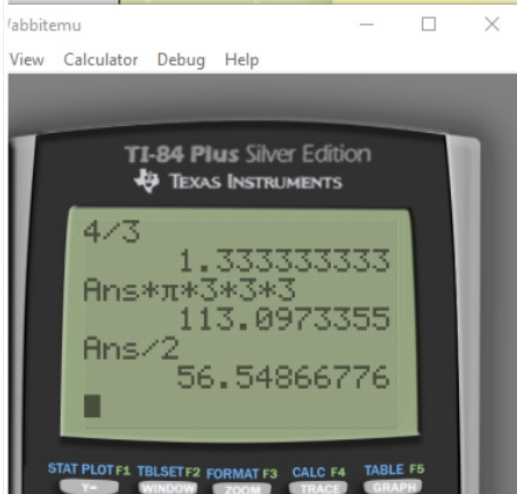
Volume of the hemisphere = 56.5 in³

Volume of one container = 169.6 in³

So, one container will need 169.6 cubic inches of confetti.

Check Does the answer make sense?

$$V = \frac{1}{3} \pi r^2 h \quad \left\{ \begin{array}{l} \text{cone} \\ \text{hemisphere} \end{array} \right. = \frac{\frac{4}{3} \pi r^3}{2}$$



Case #2 Carpenter's Riddle

Working separately, three carpenters can make three chairs in three days.

How many chairs can 7 carpenters working at the same rate make in 30 days?



1

Understand

Read the problem. What are you being asked to find?

I need to find how many chairs 7 carpenters can make in 30 days.

Underline key words and values. What information do you know?

Three carpenters make three chairs in three days.

2

Plan

Choose a problem-solving strategy.

I will use the solve a simpler problem strategy.

I will use the solve a simpler problem strategy.

3

Solve

Use your problem-solving strategy to solve the problem.

Use the information provided.

If three carpenters can make three chairs in three days, then one carpenter can make one chair in three days.

If one carpenter can make one chair in three days, then one carpenter can make 10 chairs in 30 days. If one carpenter makes 10 chairs in 30 days, then 7 carpenters make $\boxed{10} \times \boxed{7} = \boxed{70}$ chairs in 30 days.

So, 7 carpenters can make 70 chairs in 30 days.

4

Check

Use information from the problem to check your answer.

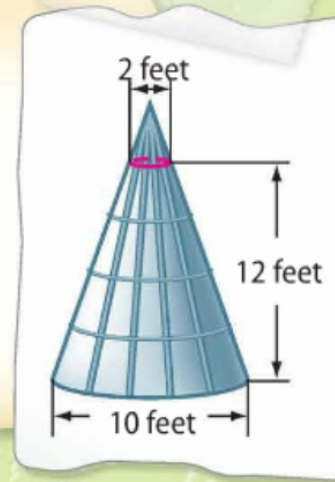
Make a table that shows how many chairs can be made by different numbers of carpenters in one day.

Case #3 Storage

A 15-foot tall storage building is shown. Grain fills the storage building to a height of 12 feet.

What is the volume of the space filled with grain?
Round your answer to the nearest tenth.

389.6 ft³



Case #4 School Play

Four students can sew four costumes in two days.

How many costumes can ten students sew in twelve days?

60 costumes

Case #5 Hidden Squares



Gina looked at the figure and decided there were 25 squares shown. Brandon told her there were many more than that since there could be squares that measure 1×1 , 2×2 , 3×3 , 4×4 , and 5×5 .

How many squares of any size are in the figure? (Hint: Count the number of squares in a 2×2 and a 3×3 square. Then look for a pattern.)

55 squares



Case #6 Pizza

What is the largest number of pieces that can be cut from one pizza using five straight cuts?



3 cuts



4 cuts

16 pieces