STUDENT MATERIALS

A family is moving to a new house. They packed up their belongings and filled a bunch of boxes. Now, they need to figure out which size truck to rent.

Task 1

The truck company sent you the following specifications of each truck. You need to start by finding the overall volume of each truck. Using the measurements they provided in the chart, find the volume that each truck can hold.

Type of Truck	Measurements	Capacity in Cubic Feet
12' Moving Truck	12' x 6.5' x 6.08'	$474.24 ft^3$
15' Moving Truck	15' x 7.6' x 7.2'	$820.8 ft^3$
20' Moving Truck	19.5' x 7.6' x 7.2'	$1067.04 ft^3$
22' Moving Truck	21.9' x 7.6' x 7.2'	$1198.368 ft^3$

Task 2

Before you can find the overall volume of your boxes you will need to find the volume of each size (small, medium, large, extra-large). Don't forget the quantity of each box used. Be sure to show your work and how you calculated the overall volume.

Box Dimensions

Box Size	Number of Individual Boxes	Dimensions	Capacity in Cubic Feet Per Box	Total Cubic Feet Per Box Type
Small	110	1.3' x 1' x 1'	$1.3 ft^3$	$143 ft^3$
Medium	80	1.5' x 1.3' x1.5'	$2.925 ft^3$	$234 ft^3$
Large	36	1.5 x 1.5' x 2'	$4.5 ft^3$	$162 ft^3$
Extra Large	70	2' x 1.6' x 2'	$6.4 ft^3$	$448 ft^3$

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Task 3

Which moving truck would you choose? Explain your rationale and be sure to use data to justify your answer.

I would choose 20 ft moving truck. I would choose this truck because the total cubic feet per box type is 987ft³, the truck capacity is 1067.04 ft³ and the 15ft truck only has a capacity of 820.8ft³.

Task 4

At the last minute, the family decided to bring their 10'x8'x5' outdoor storage container with them. Would this fit in the truck that you selected? Explain and show your work.

NO. This would not fit because 987+400=1387ft³. The truck only has a capacity of 1067.04ft³. The family would have to use the 22' moving truck.