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. 20' Moving truck because the volume of all the boxes is 987 Ft.^{3} and the volume of the truck is 1067.04 Ft.^{3}.

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, because the outdoor storages volume is 400 and if you add 400+987=1387 Ft.^{3} and that is more than 1067.04 Ft.^{3}

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