

Calculating Luggage Volume

Home Link 5-10

NAME _____

DATE _____

TIME _____



You may want to consider how much volume your luggage holds when you travel. If you know how to calculate the area of a rectangular prism, you can also find the approximate volume of a suitcase. Below are the measurements of some common suitcase sizes.



- ① a. Find the volume of each suitcase.
 b. Find the approximate volume of the interiors.
 Round to the nearest 0.01 in.³.

Suitcase 1

Exterior: 17" × 15" × 8"

a. Volume: 2,040 in.³

Interior: 16" × 13.75" × 6.5"

b. Volume: 1,430 in.³

Suitcase 2

Exterior: 21" × 14" × 7"

a. Volume: 2,058 in.³

Interior: 19.5" × 13" × 5.75"

b. Volume: 1,457.63 in.³

Suitcase 3

Exterior: 24" × 16" × 9.75"

a. Volume: 3,744 in.³

Interior: 22.5" × 14.75" × 8.25"

b. Volume: 2,737.97 in.³

Suitcase 4

Exterior: 28" × 19" × 9"

a. Volume: 4,788 in.³

Interior: 26" × 17.5" × 7.5"

b. Volume: 3,412.5 in.³

- ② Describe how you can estimate the interior volume of a suitcase if you know the exterior measurements.

Sample answer: Take 1 or 1.5 inches off of each exterior measurement to get an estimate of the interior measurements. Use those to find the approximate volume.

Practice Evaluate.

③ $\frac{2}{3} \div \frac{1}{6} = \underline{4}$

④ $\frac{5}{12} \div \frac{7}{12} = \underline{\frac{5}{7}}$

⑤ $\underline{5\frac{1}{3}} = 2\frac{2}{3} \div \frac{1}{2}$

⑥ $8 \div 2\frac{2}{3} = \underline{3}$