**SOL 8.7 :** Surface Area & Volume of Rectangular Prisms & Cylinders

Surface Area

What information do you need to find the area of Side **A**? \_\_\_\_\_\_\_\_& \_\_\_\_\_\_\_\_\_

How many side “A”s are there? \_\_\_\_\_\_

Formula: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**A**

 **C**  Height

**B**

 Width

 Length

What information do you need to find the area of Side **C**? \_\_\_\_\_\_\_\_& \_\_\_\_\_\_\_\_\_

How many side “C”s are there?\_\_\_\_\_\_

Formula: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What information do you need to find the area of Side **B**? \_\_\_\_\_\_\_\_& \_\_\_\_\_\_\_\_\_

How many side “B”s are there?\_\_\_\_\_\_

Formula: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Put all three together: **S.A.=\_\_\_\_\_\_\_\_\_\_\_\_\_­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Using your formula, find the surface area of the rectangular prism below.

 10cm

 5cm

 15cm

 S.A.=\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_ radius

What is the formula for the area of a circle?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

How many circles are on a cylinder? \_\_\_\_\_\_

Formula: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 height

What information do you need to find the area of the rectangle?

1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Formula: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Put the two together: S.A.=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Using your formula, find the surface area of the cylinder below.

 \_\_\_\_\_\_\_\_ 8cm

 22cm

 S.A.=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Volume

 Height \_\_\_\_\_\_\_\_\_ Radius

Width Height

 Length

Volume=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Volume=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Using your formula, find the volume of the rectangular prism below.

 10cm

 5cm

 15cm Volume=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Using your formula, find the volume of the cylinder below.

 \_\_\_\_\_\_\_\_\_ 8cm

 22cm

Volume=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Practice

Read the scenario. Determine whether it calls for the surface area or volume and a cylinder or rectangular prism.

|  |  |
| --- | --- |
| 1. Jeremy wants to know how many cans he can fit in his recycling bin.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 2. the amount of aluminum used to make a can of string beans.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 3. Karen is wrapping her brother’s gift,. How much paper will she need?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 4. How many tissues can fit in the tissue box?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 5. How much more soup can a large can hold over a small can?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 6. How much cardboard is needed to make a shoebox?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

Find the surface area or the volume. \*Remember to use the correct units.\*

|  |  |
| --- | --- |
| 7.  5cm   3cm 10cm  V=\_\_\_\_\_\_\_\_\_\_\_ | 8. \_\_\_\_\_ 4in 8in S.A=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 9. radius=6in height=7in V=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 10. L=2mm W= 5mm H=3mmSA=\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 11. L=6in W= 12in H=15inV=\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 12. diameter=12in height=20in V=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 13. radius=5.5m height=15m SA=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 14. L=20cm W= 5cm H=12cmSA=\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

15. In your own words, what is the difference between surface area and volume? Include examples to help

 clarify your response.