**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=3mm  SA=\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 11. L=6in W= 12in H=15in  V=\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 12. diameter=12in height=20in  V=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 13. radius=5.5m height=15m  SA=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 14. L=20cm W= 5cm H=12cm  SA=\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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

clarify your response.