Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Table #: \_\_\_\_\_\_ Period: \_\_\_\_\_\_ Date: \_\_\_\_\_\_\_

**8.4B NOTES – Surface Areas and Volumes of Similar Solids**

*Objective: Use properties of similar solids to find missing measures. Understand relationship between volumes of similar solids.*



$4π$ $16π$ $36π$ $64π$ $100π$

E

D

C

B

A

Compare the radius of cylinder A to all of the other cylinders (B, C, D & E). Set up a proportion for each one. Simplify any ratios that can be simplified. Are the two ratios equal? Is there a way to make them equal?

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| --- | --- |
|  $\frac{radius A}{radius B} \frac{surface area A}{surface area B}$ |  $\frac{radius A}{radius C} \frac{surface area A}{surface area C}$ |
|  $\frac{radius A}{radius D} \frac{surface area A}{surface area D}$ |  $\frac{radius A}{radius E} \frac{surface area A}{surface area E}$ |

When two solids are similar, the ratio of their surface areas is equal to the \_\_\_\_\_\_\_\_\_ of the ratio of their corresponding linear measures. $\left(\frac{a}{b}\right)^{2}=\frac{surface area of A}{surface area of B}$

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| 1. The solids are similar. Find the surface area of the small solid. Round answers to the nearest tenth.

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| 1. The solids are similar. Find the surface area of the big solid. Round answers to the nearest tenth.

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| 1. The pyramids are similar. What is the surface area of Pyramid A?

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| 1. The pyramids are similar. (a) Find the missing dimension. (b) Find the surface area of big pyramid.

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| **Similar Test Question #14:** There are 6 similarly shaped figures in a set. The largest is 6 inches tall. Each of the other figures is 1 inch shorter than the next larger figure. The surface area of the largest figure is 468 in2. What is the surface area of the smallest figure? HINT: draw out the figures and include the lengths.  |

HW: worksheet 8.4B