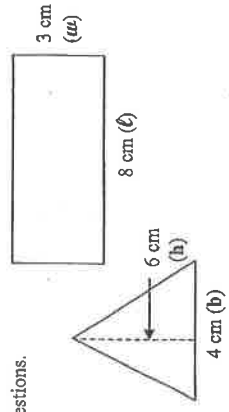


Name: Key Date: \_\_\_\_\_ Class: \_\_\_\_\_  
 Changing Dimensions Homework – Math 8  
 Day 1

Use the figures to the right to answer the following questions.



1. What is the area of the original rectangle?  
24 cm<sup>2</sup>
2. What is the area of the original triangle?  
12 cm<sup>2</sup>

3. What would happen to the area of the original rectangle if you double the width?  
 The new width would be 16 cm and the length would be 8 cm.  
 What is the new area of the rectangle? 48 cm<sup>2</sup>

The new area of the rectangle would be  $\left(\frac{\text{new}}{\text{original}}\right)$  2 times larger than the original.

4. What would happen to the area of the original triangle if you triple the base?  
 The new base would be 12 cm and the height would be 6 cm.  
 What is the new area of the triangle? 36 cm<sup>2</sup>  
 The new area of the triangle would be  $\left(\frac{\text{new}}{\text{original}}\right)$  3 times larger than the original.

5. What would happen to the area of the original rectangle if you double the width, triple the length?  
 The new width would be 16 cm and the new length would be 24 cm.  
 What is the new area of the rectangle? 144 cm<sup>2</sup>

The new area of the rectangle would be  $\left(\frac{\text{new}}{\text{original}}\right)$  6 times larger than the original.  
 (2,3)

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Class: \_\_\_\_\_  
 Changing Dimensions Homework – Math 8

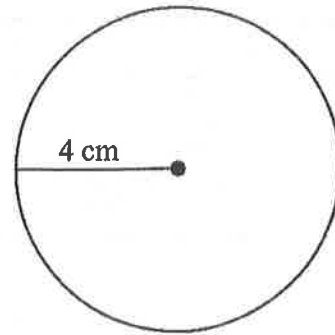
6. What would happen to the area of the original triangle if you double the height, multiply the base by 4?  
 The new height would be 12 cm and the new base would be 16 cm.  
 What is the new area of the triangle? 96 cm<sup>2</sup>  
 The new area of the triangle would be  $\left(\frac{\text{new}}{\text{original}}\right)$  8 times larger than the original.  
 (2,4)

7. How could you change the dimensions of the prism to increase the area so that it is 12 times larger than the original? Please give two possibilities.

answers vary  
 ① length double  
 width 6x  
 ② length 3x  
 width 4x

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Class: \_\_\_\_\_  
Changing Dimensions Homework – Math 8

Use the circle to the right to answer the following questions.



8. What is the area of the original circle?

50.24 cm<sup>2</sup>

9. What would happen to the area of the original circle if you triple the radius?

The new radius will be 12 cm.

What is the new area of the circle? 452.16 cm<sup>2</sup>

The new area of the circle would be  $\frac{9}{(3^2)}$  times larger than the original.

10. What would happen to the area of the original circle if you double the radius?

The new radius will be 8 cm.

What is the new area of the circle? 200.96 cm<sup>2</sup>

The new area of the circle would be 4 times larger than the original.

11. What would happen to the area of the original figure if you multiply the radius by 4?

The new radius will be 16 cm.

What is the new area of the circle? 803.84

The new area of the circle would be 16 times larger than the original.

12. How can you change the radius of the circle to increase the area by a factor of 25? By a factor of 49?

Factor of 25? Radius = multiply radius by 5 = 20

Factor of 49? Radius = multiply radius by 7 = 28