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

**8.1B Volumes of Cylinders\_Classwork**

*Objective: find the volumes of cylinders; find the heights of cylinders given the volumes; solve real-life problems. CC.SS.8.G.9*

*HW: BIM pg 338 #6-15 ALL*

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| **\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*WARM UP\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

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| 1. Find the volume of a cylinder with a diameter of 16cm and height of 4cm.
 | 1. Find the volume of a cylinder with a diameter of 8cm and height of 4cm.
 | 1. How does the volume of a cylinder change when its diameter is halved? Explain.
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**Find the missing dimension of the cylinder given the volume**.

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| 1. Find the height of the cylinder with the given volume and diameter. |
| 2. The volume of a cylinder is $405π cm^{3}$ and the radius is 9cm. Find the height. |
| 3. Find the radius of a cylinder with a volume of 7,065 ft3 and a height of 10 ft. |

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| FORMULA FOR VOLUME OF A CYLINDER: $V= πr^{2}h$ |

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| 1. Find the height for the given diameter and volume. *Round to the nearest hundredth.*

 | 1. Find the height for the given diameter and volume. *Round to the nearest hundredth.*

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| 1. Find the height of a cylinder with volume of$324π$ cm3 and radius of **6** cm.
 | 1. Find the radius of a cylinder with a volume of 3,768 ft3 and a height of 12 ft.
 |

**Find the missing dimension of the cylinder. *Round your answer to the nearest whole number.***

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| 1. $ Volume=400π ft^{3}$

**6 ft** |
| 1. $Volume=25,000π in^{3}$

**20 in** |
| 1. $Volume=80,000π cm^{3}$

**40 cm** |

Solution: 1) $≈2.97in$ 2) $≈12.93cm$ 3) $9cm$ 4) $≈10ft$

 5) $≈44ft$ 6) $250in$ 7) $≈45cm$