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

**8.2B NOTES – Volumes of Cones**

*Objective: find the volumes of cones, find the heights of cones given the volumes, solve real-life problems (CC.SS.8.G.9\_MP4 Model with Mathematics)*

*Video:* [*https://www.youtube.com/watch?v=2T7YxFVCVwI*](https://www.youtube.com/watch?v=2T7YxFVCVwI) *or* [*https://www.youtube.com/watch?v=Ex-peEPTWGI*](https://www.youtube.com/watch?v=Ex-peEPTWGI)

|  |
| --- |
| FORMULA FOR VOLUME OF A CONE: $V=\frac{1}{3}πr^{2}h or V= \frac{πr^{2}h}{3}$ or $ V=\left(πr^{2}h\right)÷3$ |

**FIND THE HEIGHT OF THE CYLINDER GIVEN VOLUME & RADIUS OR DIAMETER.**

**Round to the nearest hundredth.**

|  |  |  |
| --- | --- | --- |
| **EXAMPLE NOTES**

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| --- | --- |
| **1.**Find the height.  | **2.**Find the height of a cone with a diameter of 0.1 meter and a volume of 78.5 cm3. |

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|  |  |
| --- | --- |
| 1. Find the height.

 | 1. Find the diameter of a cone with a volume of 3,768 cm3 and a height of 9 cm.
 |
| 3. Find the diameter of a cone with a volume of 1,256 in3 and a height of 1 foot. |

*HW: 8.2B pg 347\_#1-10 ALL (Textbook Quiz 8.1-8.2 questions)* **BACK 🡪**

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| 1. You must answer a trivia question before the sand in the timer falls to the bottom. The sand falls at a rate of 50 cubic millimeters per second. How much time do you have to answer the question? Round to the nearest hundredth.

  |
| 1. **Similar Test Question #17.** LEMONADE STAND: You have 10 gallons of lemonade to sell. ($1 gal≈3785 cm^{3}$)
2. Each Customer uses one paper cup. How many paper cups will you need? \_\_\_\_\_\_\_\_\_\_\_\_\_
3. The cups are sold in packages of 50. How many packages should you buy? \_\_\_\_\_\_\_\_\_\_\_\_\_

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|  |  |
| --- | --- |
| 1. Find the Height. Round to the nearest tenth.

 | 1. Find the diameter. Round to the nearest tenth.

 |

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

**8.2B HOMEWORK – Volumes of Cones**

*HW: 8.2B pg 347\_#1-10 ALL (Quiz questions)*

Find the volume of the solid. Round your answer to the nearest tenth.

|  |  |
| --- | --- |
| 1.**12 ft**  | 2. |
| 3. | 4. |

Find the missing dimension of the solid. Round your answer to the nearest tenth.

|  |  |
| --- | --- |
| 5. | 6. |

**BACK 🡪**

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| 7.PAPER CONE: The paper cone can hold 84.78 cubic centimeters of water. What is the height of the cone? | 8.GEOMETRY: Triple both dimensions of the cylinder. How many times greater is the volume of the new cylinder than the volume of the original cylinder?  |
| 9.SAND ART: There are 42.39 cubic inches of blue sand and 28.26 cubic inches of red sand in the cylindrical container. How many cubic inches of white sand are in the container? | 10.JUICE CAN: You are buying two cylindrical cans of juice. Each can holds the same amount of juice. What is the height of Can B? |

**SOLUTIONS:** 1) $≈44.0 yd^{3}$ 2) $≈113.1 ft^{3}$ 3) $≈157.1 cm^{3}$ 4) $≈414.7 in^{3}$ 5) $≈12.0 ft$

 6) $≈13.8 cm$ 7) $≈9 cm$ 8) 27 times greater 9) $≈42.45 in^{3}$ 10) $13.5 in$