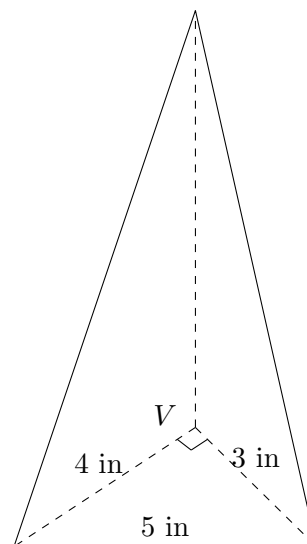


7. [10 points]

Ms. Parth made a pyramid for her niece and nephew. The pyramid is 10 inches tall and the base has the shape of a right triangle. When the pyramid is sitting on the table it looks like the figure to the right. The three angles at vertex  $V$  are right angles. (Dashed lines are not visible from this point of view. The figure may not be drawn to scale.)



- a. [6 points] Write an integral that represents the total volume of the pyramid in cubic inches and evaluate it.

**Answer:** Integral: \_\_\_\_\_

Volume: \_\_\_\_\_

- b. [4 points] The children fail to share the pyramid, so Ms. Parth decides to cut it parallel to the table into two pieces of equal volume. How many inches  $H$  from the **top** of the pyramid should Ms. Parth cut? Round your answer to the nearest tenth of an inch.

**Answer:**  $H =$  \_\_\_\_\_