

2. The diagram does not give the height of either figure, and to apply Cavalieri's Principle, the heights of the two figures must be equal.
3. Both an oblique prism and an oblique cylinder are slanted; their sides are not at right angles with their bases. The base of an oblique cylinder must be a circle while the base of an oblique prism can be any polygon.
4.  $V = \frac{x^3}{4\pi}$
5. No; a dent in the can changes the area at that height, so Cavalieri's Principle does not apply.
6.  $840 \text{ in}^3$
7.  $62.8 \text{ m}^3$
8.  $120 \text{ cm}^3$
9.  $960 \text{ cm}^3$
10.  $10.5 \text{ m}^3$
11. approximately  $552.9 \text{ in.}^3$
12. Figures B and C; they have the same base area,  $\pi \text{ ft}^2$ , and the same height, 4 ft. Figure A has a slant height of 4 ft and, therefore, must have a different height; by Cavalieri's Principle if the base is equal and the height is not, then the volume is not equal.