density = mass / volume

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Geometry

Density

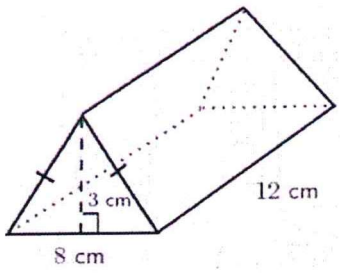
1. A brick that weighs 1824 grams has dimensions that measure 4 cm by 3 cm by 8 cm. To the nearest tenth, what is the density of the brick?

$d = \frac{1824 \text{ grams}}{96 \text{ cm}^3}$

$d = 19 \text{ g/cm}^3$

$V = lwh$
$V = 4(3)(8)$
$V = 96 \text{ cm}^3$

2. Clay in the shape of a triangular prism shown below has a mass of 1260 grams. What is its density?



$d = \frac{1260}{144 \text{ cm}^3}$

$d = 8.75 \text{ g/cm}^3$

$V = \frac{1}{2}lwh$
$V = \frac{1}{2}(8)(3)(12)$
$V = 144 \text{ cm}^3$

3. A cylindrical candleholder has a diameter of 4.5 cm and a height of 20 cm. If the candleholder has a mass of 2900 g, rounded to the nearest whole number, what is its density?

$d = \frac{2900 \text{ g}}{318\ldots \text{cm}^3}$

$d = 9 \text{ g/cm}^3$

$V = \pi r^2 h$
$V = \pi(2.25)(20)$
$V = 318\ldots \text{cm}^3$

4. A square pyramid with a base with an edge of 6 inches and a height of 12 inches has a mass of 684 grams. Find the density to the nearest tenth.

$d = \frac{684\ g}{432\ in^3}$

$d = 1.6\ g/in^3$

$V = \frac{1}{3}lwh$

$V = 6(6)(12)$

$V = 432\ in^3$

5. What is the density of a solid sphere of clay that has a diameter of 3.2 inches and has a mass of 552 grams? Round your answer to the nearest tenth.

$d = \frac{552\ g}{17.\_\_\ in^3}$

$d = 32.2\ g/in^3$

$V = \frac{4}{3}\pi r^3$

$V = \frac{4}{3}\pi (1.6)^3$

$V = 17...\ in^3$

6. A wooden cube has an edge length of 6 centimeters and a mass of 137.8 grams. Determine the density of the cube, to the *nearest thousandth*. State which type of wood the cube is made of, using the density table below.

Type of Wood	Density (g/cm^3)
Pine	0.373
Hemlock	0.431
Elm	0.554
Birch	0.601
Ash	0.638
Maple	0.676
Oak	0.711

$d = \frac{137.8\ g}{216\ cm^3}$

$d = .638\ g/cm^3$

Ash

$V = lwh$

$V = 6(6)(6)$

$V = 216\ cm^3$