




Wednesday Feb 27 Warm-Up

Determine whether the solid is a polyhedron. If it is, name the polyhedron. Explain your reasoning.

1.  2.  3. 




Use Euler's Theorem to find the value of n.

4. Faces: n
Vertices: 4
Edges: 6

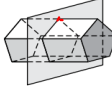
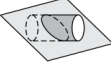
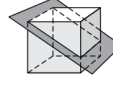
5. Faces: 10
Vertices: n
Edges: 24

6. Faces: 14
Vertices: 24
Edges: n

Find the number of faces, vertices, and edges of the polyhedron. Check your answer using Euler's Theorem.




10.  11.  12. 

Describe the cross section formed by the intersection of the plane and the solid.




20.  21.  22. 

Feb 27-7:20 AM

Using Unit Cubes Find the volume of the solid by determining how many unit cubes are contained in the solid.

4.  5.  6. 




Find the Volume Find the volume of the right prism or right cylinder. Round your answer to two decimal places.

7.  8.  9. 

ALGEBRA Find the length x using the given volume V .

15. $V = 1000 \text{ in.}^3$ 16. $V = 45 \text{ cm}^3$ 17. $V = 120\pi \text{ in.}^3$

COMPOSITE SOLIDS Find the volume of the solid. The prisms and cylinders are right. Round your answer to two decimal places, if necessary.

18.  19.  20. 

Feb 26-12:28 PM

method 1

$V = Bh$

$35 - 15 = 20$

method 2

$V = Bh$

$2 \times 1 \times 5 = 10$

$5 \times 1 \times 2 = 10$

$10 + 10 = 20$

20 cubic units

Feb 27-8:05 AM

method 1

$5 \times 2 \times 1 = 10$

$1 \times 2 \times 4 = 8$

$10 + 8 = 18$

18 cubic units

Feb 27-8:09 AM

6.

$60 + 12 = \boxed{72 \text{ Cubic units}}$

Feb 27-8:13 AM

FINDING VOLUME Find the volume of the right prism or right cylinder.
Round your answer to two decimal places.

7.

$V = Bh$
 Δh (of the Prism)
 Triangular prism
 Base is a Δ $\frac{1}{2}(7)(10) = 175 \text{ in}^2$
 Area of Base = $\frac{1}{2}bh$

Feb 27-8:15 AM

8.

$V = Bh$
 $V = 4 \times 2 \times 1.5 = 12$


Feb 27-8:18 AM

<p>10.</p> <p> $V = Bh$ Base is a \circ $V = \pi r^2 h$ $\pi(7)^2(12)$ $\boxed{1847.26 \text{ ft}^3}$ </p>	<p>11.</p> <p> $V = Bh$ $V = \pi r^2 h$ of solid $V = \pi(5)^2(16)$ $\boxed{1256.64 \text{ in}^3}$ </p>	<p>12.</p> <p> $V = Bh$ $V = \pi r^2 h$ $V = \pi(13.4)^2(9.8)$ $\boxed{5528.22 \text{ cm}^3}$ </p>
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Feb 27-8:20 AM

ALGEBRA Find the length x using the given volume V .

15. $V = 1000 \text{ in.}^3$



$$V = Bh$$

$$1000 = x \cdot x \cdot x$$

$$1000 = x^3$$


$$\sqrt[3]{1000} = \sqrt[3]{x^3}$$

$10 = x$

Feb 27-8:25 AM

ALGEBRA Find the length x using the given volume V .

16. $V = 45 \text{ cm}^3$



$V = Bh$

45 = $B \times h$

Volume = $\frac{1}{2}bh$ Prism

Because Δ is a Right Δ , Use Pythagorean Theorem to get height

Base = $\frac{1}{2}bh$
Area = $\frac{1}{2}bh$

$$(2.5)^2 + x^2 = 9^2$$

$$6.25 + x^2 = 81$$

$$-6.25 \quad -6.25$$

$$x^2 = 74.75$$

$$\sqrt{x^2} = \sqrt{74.75}$$

$$x = 8.65 \text{ height of } \Delta$$

$V = Bh$

$$45 = \frac{1}{2}(9)(8.65)h$$

$$45 = 21.63h$$

$$\frac{45}{21.63} = \frac{21.63h}{21.63}$$

Volume / Area of Δ = height of Prism

$h = 2.08 \text{ in}$


Feb 27-8:25 AM

ALGEBRA Find the length x using the given volume V .

15. $V = 1000 \text{ in.}^3$

16. $V = 45 \text{ cm}^3$

17. $V = 128\pi \text{ in.}^3$



What's the diameter

$$V = Bh$$

$$128\pi = \pi r^2 h$$


$$\frac{128\pi}{8\pi} = \frac{\pi r^2 \cdot 8}{\pi \cdot 8}$$


$$16 = r^2$$


$$4 = r \rightarrow \text{Diameter is } 8$$

Feb 27-8:25 AM

COMPOSITE SOLIDS Find the volume of the solid. The prisms and cylinders are right. Round your answer to two decimal places, if necessary.

18. 

19. 

20. 

18

$$\pi r^2 h - \pi r^2 h$$

$$\pi(3)^2 \cdot 7 - \pi(4)^2 \cdot 7$$

$$63\pi - 7\pi = 56\pi$$

175.93 m^3

Feb 27-8:25 AM

COMPOSITE SOLIDS Find the volume of the solid. The prisms and cylinders are right. Round your answer to two decimal places, if necessary.

19.

$$(12.4 \times 7.8 \times 9) - (1.8 \times 3 \times 9)$$

$$821.88 \text{ ft}^3$$

Feb 27-8:42 AM

COMPOSITE SOLIDS Find the volume of the solid. The prisms and cylinders are right. Round your answer to two decimal places, if necessary.

Diameter = 4
radius = 2

$$4 \times 4 \times 4 + \frac{1}{2}(\pi r^2 h)$$

$$64 + 8\pi$$

$$64 + 25.13$$

$$89.13 \text{ m}^3$$

Feb 27-8:42 AM

$V = \pi r^2 h$ (Cylinder)
 $V = \frac{1}{3} \pi r^2 h$ (Cone)
 $V = Bh$ (Rectangular Prism)
 $V = \frac{1}{3} L \times w \times h$ (Triangular Prism)
 $A = 4\pi r^2$ (Sphere)
 $V = \frac{4}{3} \pi r^3$ (Sphere)

Feb 27-8:50 AM

HW Page EP23 numbers 30-36, 39-44

Extra Practice

11.6 Find the volume of the right prism or right cylinder. Round to two decimal places.

30. 31. 32.

11.6 Find the value of x . Round to two decimal places, if necessary.

33. $V = 8 \text{ cm}^3$ 34. $V = 72 \text{ ft}^3$ 35. $V = 628 \text{ in.}^3$

33. 34. 35.

11.6 Find the volume of the solid. Round to two decimal places.

36. 37. 38.

11.7 Find the volume of the right cone. Round to two decimal places.

39. 40. 41.

11.6 Find the surface area and volume of a sphere with the given radius r or diameter d . Round to two decimal places.

42. $r = 13 \text{ mm}$ 43. $r = 1.8 \text{ in.}$ 44. $d = 28 \text{ yd}$ 45. $d = 13.7 \text{ cm}$
 46. $r = 20 \text{ in.}$ 47. $r = 17.5 \text{ mm}$ 48. $d = 15.2 \text{ m}$ 49. $d = 23 \text{ ft}$

11.7 Solid A (shown) is similar to Solid B (not shown) with the given scale factor of A to B. Find the surface area and volume of Solid B.

50. Scale factor of 3:2 $S = 324 \text{ in.}^2$ $V = 372 \text{ in.}^3$ 51. Scale factor of 2:1 $S = 864 \text{ ft}^2$ $V = 1728 \text{ ft}^3$ 52. Scale factor of 4:7 $S = 64 \text{ cm}^2$ $V = 64 \text{ cm}^3$

EP23

Feb 27-8:55 AM