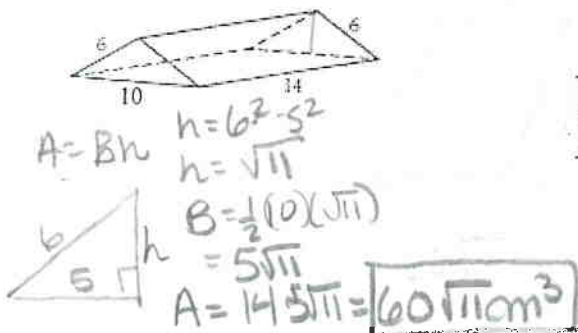
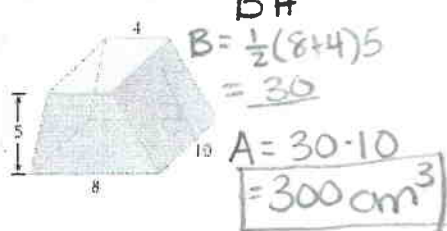


Problems 1 – 3: Find the volume of each solid. All lengths are in centimeters.

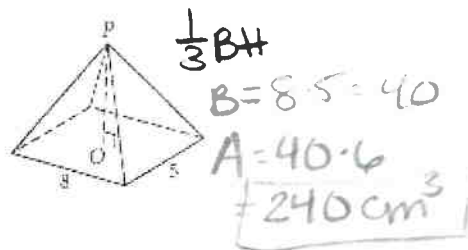
1. Right triangular prism



2. Trapezoidal prism



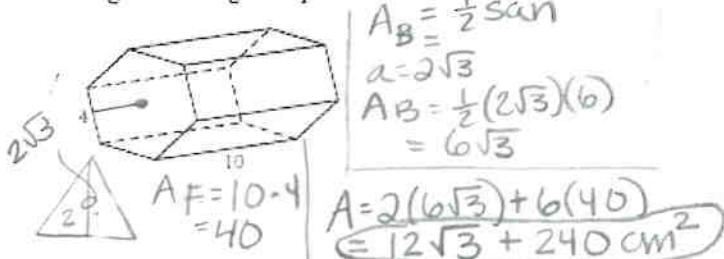
Rectangular pyramid: $OP = 6$



4. Find the surface area of:

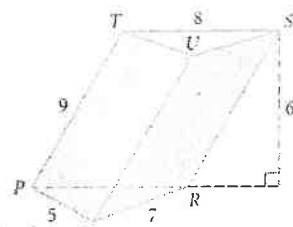
$SA = 20 + 60$

Regular hexagonal prism



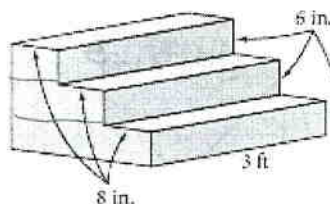
5. In the following shape identify:

- The base PQR, TUS
- A lateral edge PT, QU, RS
- The height 6
- The polyhedron name Pentahedron
- The most specific name Triangular Prism

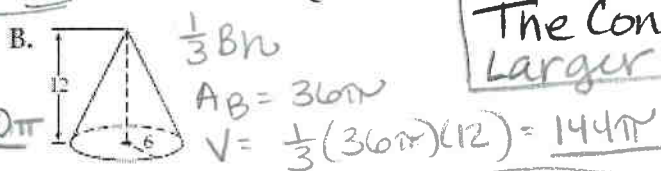
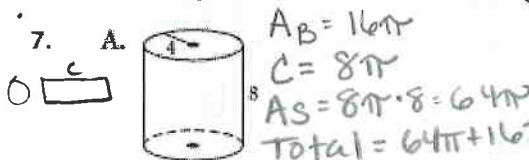


6. You need to build a set of solid cement steps for the entrance to your new house. How many cubic feet of cement do you need? Top + middle + base

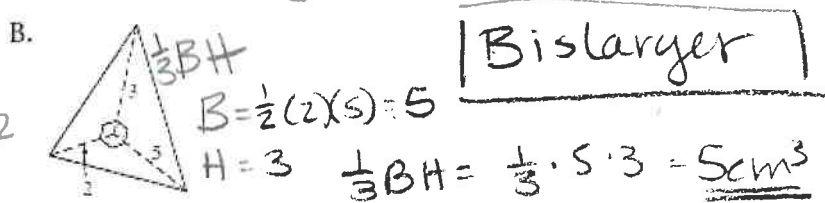
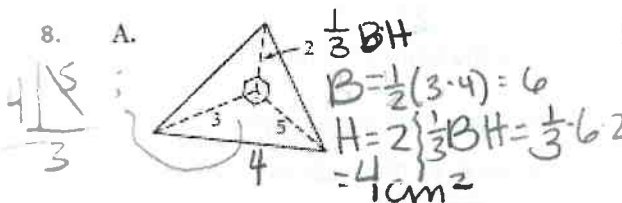
$V_T = 8 \times 3 \times 6 = 144$
 $V_M = 16 \times 3 \times 6 = 288$
 $V_B = 24 \times 3 \times 6 = 432$
 $V_T + V_M + V_B = 864 \text{ in}^3$



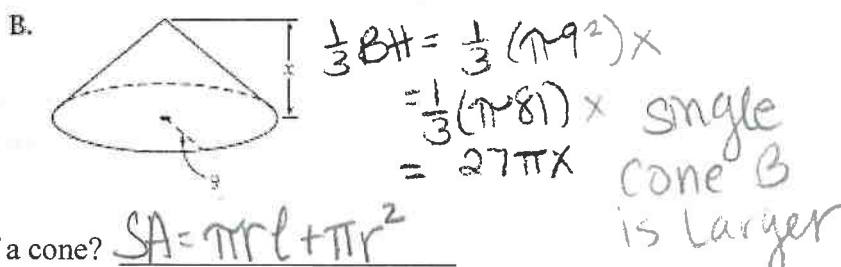
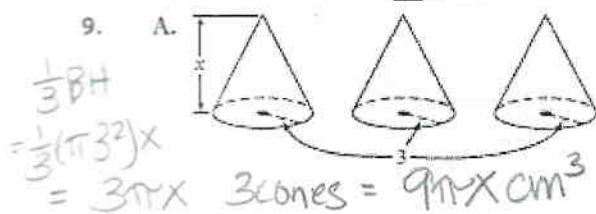
In Exercises 7-9, find the volume of each figure and tell which volume is larger.



The Cone is Larger



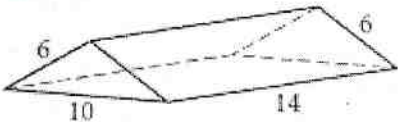
B is larger

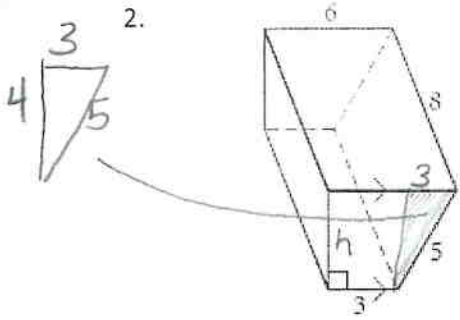


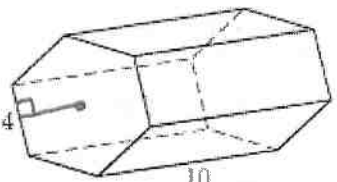
10. What is the formula for the Surface Area of a cone?


$SA = \pi r l + \pi r^2$

In exercises 1-4, find the volume of each prism or cylinder. Assume the measurements are in centimeters. Round your answer to the nearest hundredth.

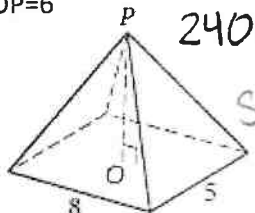
1. 
 $60\sqrt{11} \text{ cm}^3$ (see quiz key.)

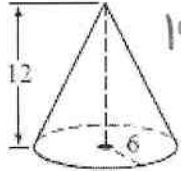
2. 
 $V = BH$
 $A_T = \frac{1}{2}(6)(3)4$
 $= 18$
 $V = 18 \cdot 8$
 $= 144 \text{ cm}^3$

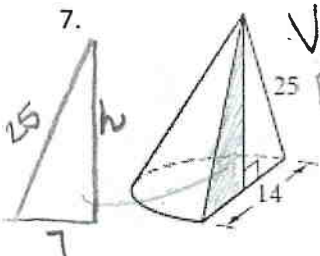
3. 
 $12\sqrt{3} + 240 \text{ cm}^3$ (see quiz key)

4. 
 80π (see quiz key)

In exercises 5-7, find the volume of each pyramid or cone. Assume the measurements are in centimeters. Round your answer to the nearest hundredth.

5. $OP=6$

 240 cm^3
 see quiz key

6. 
 $144\pi \text{ cm}^3$
 see quiz key

7. 
 $V = BH$
 $B = \frac{1}{2}\pi r^2$
 $= \frac{1}{2}(49)\pi = 24.5\pi$

$h^2 = 25^2 - 7^2$
 $h^2 = 625 - 49$
 $h^2 = 576$
 $h = 24$
 $A = BH$
 $24.5\pi(24)$
 $= 612.5\pi \text{ cm}^3$

In exercises 8-9, draw a picture, show all work and round your answer to the nearest hundredth.

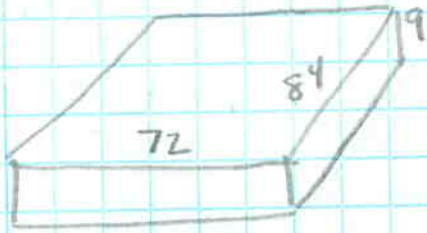
8. A king-size waterbed mattress measures 72 in by 84 in by 9 in. Water weighs 62.4 pounds per cubic foot. An empty mattress weighs 35 pounds. How much does a full mattress weigh?
 (1728 in³ in one cubic foot)

9. A cone has volume 320 cm³ and height 16 cm. Find the radius of the base.

10. Sketch and label a regular rectangular prism with vertices ABCDEFGH. List all faces and edges.

Review

8.



$$V = 72 \times 84 \times 9$$

$$= 54,432 \text{ in}^3$$

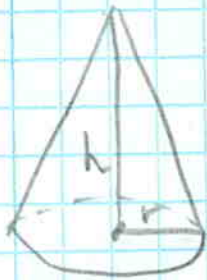
$$V = 54,432 \text{ in}^3 \cdot \frac{1 \text{ ft}^3}{1728 \text{ in}^3}$$

$$= 31.5 \text{ ft}^3$$

$$\text{Weight: } 31.5 \text{ ft}^3 \cdot \frac{62.4 \text{ lbs}}{1 \text{ ft}^3} = 1965.6 \text{ pounds}$$

plus 35 pounds = 2000.6 pounds
weight of a full mattress

9.



$$V = 320 \text{ cm}^3$$

$$h = 16 \text{ cm}$$

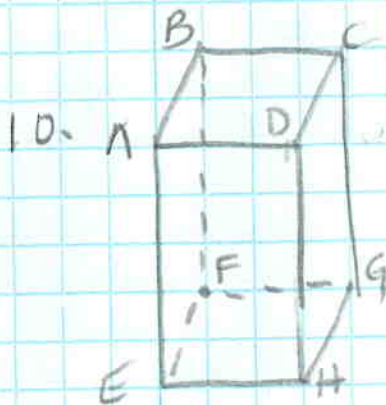
$$V = \frac{1}{3} B H$$

$$\frac{320}{16} = \frac{1}{3} (\pi r^2) \left(\frac{16}{16} \right)$$

$$3 \cdot 20 = \frac{1}{3} (\pi r^2) \cdot 3$$

$$\frac{60}{\pi} = \frac{\pi r^2}{\pi}$$

$$19.10 = r^2 \quad \underline{r = 4.37 \text{ cm}}$$



FACES

ABCD
EFGH
ABFE
BCGF
CDHG
ADHE

EDGES

\overline{AB} \overline{BC} \overline{CD} \overline{DA}
 \overline{EH} , \overline{EF} , \overline{FG} , \overline{GH}
 \overline{AE} , \overline{BF} , \overline{CG} , \overline{DH}

(6 total)