12.8

Key

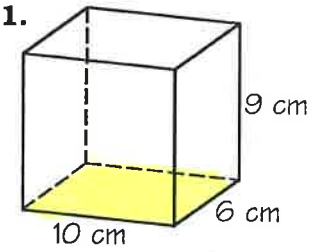
What Do You Call a Monster With a Car On His Head?

	210 cm^3			392.5 g			3150 m^3							
	174.5 mL	712 $in.^3$	628 $in.^3$	540 cm^3	706.5 cm^3		35.1 ft^3			2700 m^3	144 $in.^3$	183 $in.^3$		
						209.3 $in.^3$	166.7 mL		$2.00			$1.50		
	$1.00			408.9 g	9 m^3		180 cm^3			7.2 m^3				
	688.3 cm^3					47.2 ft^3						98 cm^3		

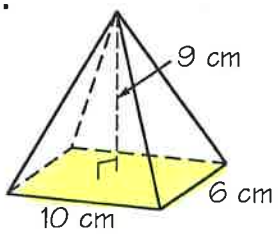
Shade in the area containing each correct answer (some answers are rounded). Use 3.14 for π.

Find the volume of each figure.

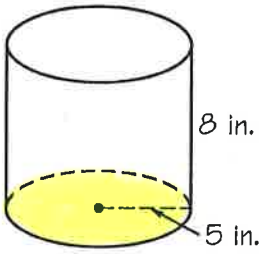
1.



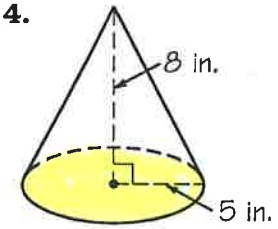
2.



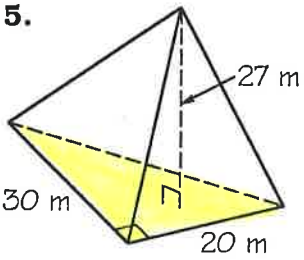
3.



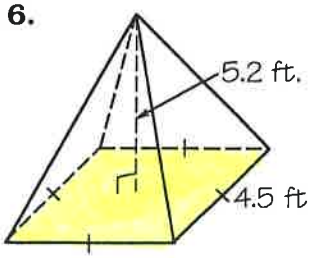
4.



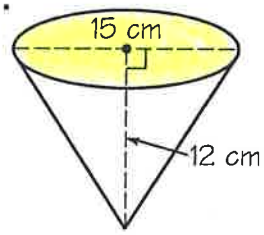
5.



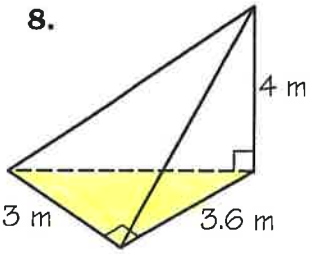
6.



7.



8.

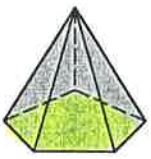


Solve.

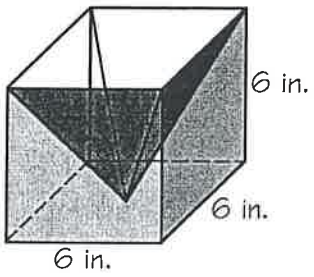
9. An ice cream cone has a diameter of 7 cm and a height of 13 cm. How many milliliters of melted ice cream can it hold? (1 cm^3 holds 1 mL)

r=3.5 cm

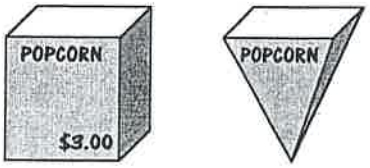
10. The steel machine part at the right has a base area of 22.5 cm^2 and a height of 5.8 cm. The steel weighs 9.4 grams per cubic centimeter. How much does the part weigh?



11. A pyramid fits snugly inside a 6-in. cube as shown. What is the volume of the shaded region (inside the cube but outside the pyramid)?



12. Two popcorn boxes are shown below. The boxes have congruent openings and equal heights. If the larger box of popcorn sells for $3.00, what is a fair price for the smaller box?



What do you call a Monster with a car on his head?

Key

1) $V = BH$
$= (bh)H$
$= (10 \cdot 6) \cdot 9$
$= (60) \cdot 9$
$= 540\ cm^3$

2) $V = \frac{1}{3}BH$
$= \frac{1}{3}(bh)H$
$= \frac{1}{3}(10 \cdot 6) \cdot 9$
$= \frac{1}{3}(60)(9)$
$= 180\ cm^3$

3) $V = BH$
$= (\pi r^2)H$
$= (3.14 \cdot 5^2)(8)$
$= (3.14 \cdot 25)(8)$
$= (78.5)(8)$
$= 628\ in^3$

4) $V = \frac{1}{3}BH$
$= \frac{1}{3}(\pi r^2)H$
$= \frac{1}{3}(3.14 \cdot 5^2)(8)$
$= \frac{1}{3}(3.14 \cdot 25)(8)$
$= \frac{1}{3}(78.5)(8)$
$= 209.\bar{3}\ in^3$

5) $V = \frac{1}{3}BH$
$= \frac{1}{3}(\frac{1}{2}bh)H$
$= \frac{1}{3}(\frac{1}{2} \cdot 20 \cdot 30)(27)$
$= \frac{1}{3}(300)(27)$
$= 2700\ M^3$

6) $V = \frac{1}{3}BH$
$= \frac{1}{3}(bh)H$
$= \frac{1}{3}(4.5 * 4.5)(5.2)$
$= \frac{1}{3}(20.25)(5.2)$
$= 35.1\ ft^3$

7) $V = \frac{1}{3}BH$
$= \frac{1}{3}(\pi r^2)H$
$= \frac{1}{3}(3.14 \cdot (7.5)^2)(12)$
$= \frac{1}{3}(3.14 * 56.25)(12)$
$= \frac{1}{3}(176.625)(12)$
$= 706.5\ cm^3$

8) $V = \frac{1}{3}BH$
$= \frac{1}{3}(\frac{1}{2}bh)H$
$= \frac{1}{3}(\frac{1}{2} \cdot 3 \cdot 3.6)(4)$
$= \frac{1}{3}(5.4)(4)$
$= 7.2\ M^3$

9) $V = \frac{1}{3}BH$
$= \frac{1}{3}(\pi r^2)H$
$= \frac{1}{3}(3.14 * 3.5^2)(13)$
$= \frac{1}{3}(3.14 * 12.25)(13)$
$= \frac{1}{3}(38.465)(13)$
$= 166.7\ cm^3$

10) $V = \frac{1}{3}BH$
$= \frac{1}{3}(22.5)(5.8)$
$= 43.5\ cm^3$

$43.5 * 9.4 = 408.9\ g.$

11) Cube
$V = BH$
$= (bh)H$
$= (6 \cdot 6)6$
$= (36)6$
$= 216\ in^3$

Sq. pyramid
$V = \frac{1}{3}BH$
$= \frac{1}{3}(bh)H$
$= \frac{1}{3}(6 \cdot 6)6$
$= \frac{1}{3}(36)6$
$= 72\ in^3$

$216 - 72 = 144\ in^3$

12) Volume of the pyramid is 1/3 of the volume of the prism.

$1.00 would be a fair price.