Show What You Know Solutions

Machine generated alternative text:
Sample Solutions 
I. For example: I used the width of my calculator as a 
referent for 10 cm. My estimates for my desk were 
length: 600 mm, 60 cm, 0.60 m; width: 400 mm, 
40 cm, 0.40 m; and height: 700 mm, 70 cm, 0.70 m 
2. a) Student drawings should be of a stick 1 cm long. 
b) Student drawings should be of a pin 1 5 mm long. 
c) Student drawings should be of a pencil 16.2 cm long. 
3. a) 3 m 3000 mm 
b) 4000 mm m 
c) 2 m 2000 mm 
d) 5000 mm 5 m 
e) 1 0 m 1 0 000 mm f) 7000 mm 7 m 
4. Student rectangles should be drawn on 1 -cm grid paper. 
Dimensions of possib e rectangles are given. 
a) 5 cm by 5 cm, 4 cm by 6 cm, 2 cm by 8 cm, 
I cm by 9 cm 
b) 1 cm by 20 cm; 2 cm by 10 cm; cm by 5 cm 
5. Student drawings should show a rectangle with the 
dimensions 3 cm by 12 cm drawn on 1 -cm grid paper. 
6. a) 98 m 

Machine generated alternative text:
b) The garden with the least perimeter would be close to 
a square. It would be 6 m by 8 m. 
c) It would be cheaper because it would require the least 
amount of fencing. 
7. Answers will vary depending on the containers and 
items chosen. For example: 
a) I found a margarine tub and yellow hexagon Pattern 
Blocks. I estimated that the tub would hold 50 of the 
hexagons. 
b) I filled the tub and found that it only held 28. 
8. Check student structures for accuracy. 
a) 27 cm3 
b) 24 cm3 
c) 28 cm3 
Object c has the greatest volume. 

Machine generated alternative text:
9. Check student prisms for accuracy. 
a) 16 cm3 
b) 6 cm3 
c) 36 cm3 
10. Check student prisms for accuracy. 
Length (cm) Width (cm) Height (cm) Volume (cm3) 
12 
24 
11. Check student prisms for accuracy. 
Length (cm) Width (cm) Height (cm) Volume (cm3) 
18 
18 
18 
18 
18 

Machine generated alternative text:
12. A referent for one cubic metre could be a playpen. 
A large packing box and a closet might be measured in 
cubic metres. To estimate each volume, I would visualize 
how many playpens would fit at the bottom of each obiect 
and how many would fit on top of the bottom layer. Then I 
would multiply the 2 numbers to get my estimate for that 
object. 
13. a) 15 
b) IOL 
c) 400 
d) 200 L 
14. L, 2 L, 1980 ml, 1500 rnL 
15. Student pictures should show a lacrosse ball submerged in 
the graduated cylinder and the reading at the new water 
level. For example: I could pour water into a graduated 
cylinder to the 300-mL mark and then add the lacrosse ball. 
This will make the water level rise. I wou d then find the 
difference between the new water level and 300 mL 
which will tell me the volume of the ball in millilitres. I can 
also convert the millilitres to cubic centimetres because 
I ml I cm3. 