

# Chapter 1

## NO CALCULATOR

1. Jasdeep and Kelsey converted 177 ounces into kilograms, as shown below.

Jasdeep's Solution	Kelsey's Solution
$177 \text{ oz} \times \frac{28.35 \text{ g}}{1 \text{ oz}} \times \frac{1 \text{ kg}}{1000 \text{ g}} = 5 \text{ 017 950 kg}$	$177 \text{ oz} \times \frac{1 \text{ oz}}{28.35 \text{ g}} \times \frac{1 \text{ kg}}{1000 \text{ g}} = 0.0062 \text{ kg}$

Which statement below is true?

- A. Only Kelsey is correct because the units cancel.  
 B. Only Jasdeep is correct because the units cancel.  
 C. Only Kelsey is incorrect because the conversion factors are incorrect.  
 D. They are both incorrect for different reasons.

2. A baker gets his muffin boxes from the United States. The tallest muffins he bakes are 11 cm. Estimate the height of the smallest box in which the muffins will fit.

- A. 30 inches tall  
 B. 10 inches tall  
 C. 5 inches tall  
 D. 4 inches tall

3. Which of the following calculations converts 4 yards into centimetres?

- A.  $4 \text{ yd} \times \frac{2.54 \text{ cm}}{1 \text{ in}}$   
 B.  $4 \text{ yd} \times \frac{3 \text{ ft}}{1 \text{ yd}} \times \frac{2.54 \text{ cm}}{1 \text{ ft}}$   
 C.  $4 \text{ yd} \times \frac{3 \text{ ft}}{1 \text{ yd}} \times \frac{12 \text{ in}}{1 \text{ ft}} \times \frac{2.54 \text{ cm}}{1 \text{ in}}$   
 D.  $4 \text{ yd} \times \frac{1 \text{ ft}}{3 \text{ yd}} \times \frac{1 \text{ in}}{12 \text{ ft}} \times \frac{1 \text{ cm}}{2.54 \text{ in}}$

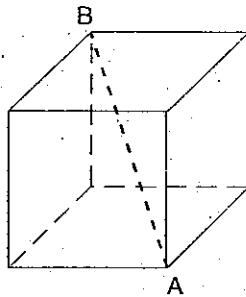
4. A road sign says to turn right in 1000 feet. Approximately how far is this distance in kilometres?

- A. 0.3 km  
 B. 0.6 km  
 C. 1 km  
 D. 1.5 km

# CALCULATOR PERMITTED

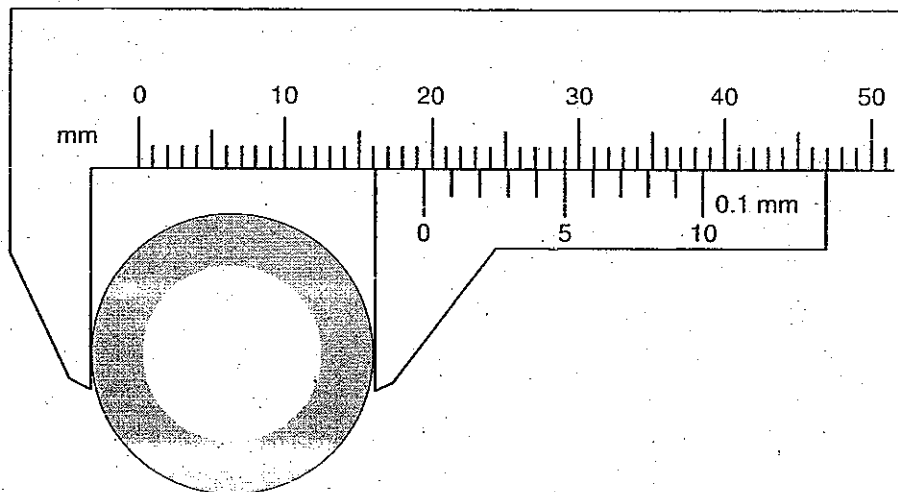
## Multiple Choice

- 5 Polar Company has designed an ice block in the shape of a cube. The volume of the cube is  $15\,625\text{ cm}^3$ . Which of the following dimensions is the smallest opening of an ice dispenser that will accommodate length AB?



- A. 25 cm wide
- B. 40 cm wide
- C. 45 cm wide
- D. over 50 cm wide

- 6 Sarah needs to replace the exhaust pipe on her dirt bike. She uses a Vernier calliper to find the diameter of the pipe.



What is the diameter of the pipe?

- A. 16.1 mm
- B. 19.2 mm
- C. 19.5 mm
- D. 29.0 mm

7. As an estimation strategy, what could be used to best approximate one centimetre?

- A. the length of your foot
- B. the width of your hand
- C. the width of your finger
- D. the width of a pencil lead

8. On a quiz, students were asked to convert 5 lbs 4 oz to a metric weight.

	Stan's Solution	Erin's Solution
Step 1	$4 \text{ oz} \times \frac{1 \text{ lb}}{16 \text{ oz}} = 0.25 \text{ lb}$	$5 \text{ lb} \times \frac{16 \text{ oz}}{1 \text{ lb}} = 80 \text{ oz}$
Step 2	$5.25 \text{ lb} \times \frac{0.454 \text{ kg}}{1 \text{ lb}} \approx 2.3835 \text{ kg}$	$84 \text{ oz} \times \frac{28.35 \text{ g}}{1 \text{ oz}} \approx 2381.4 \text{ g}$

How should the teacher mark these two solutions?

- A. Only Erin's solution is correct.
- B. Only Stan's solution is correct.
- C. Both Stan and Erin gave a correct solution.
- D. Neither Stan nor Erin gave a correct solution.

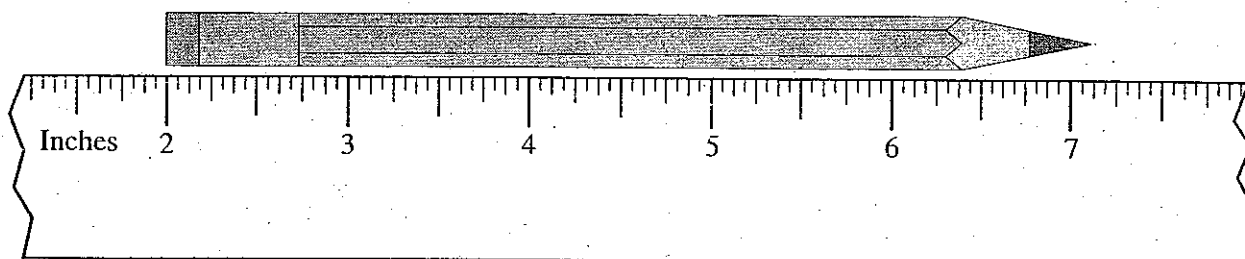
9. A cylinder has a surface area of  $402 \text{ cm}^2$ . The height is three times greater than the radius. What is the height of the cylinder?

- A. 8.00 cm
- B. 10.48 cm
- C. 12.00 cm
- D. 16.97 cm

10. A bowling ball measures 264 cm in circumference. What is the volume of the smallest cube that will hold this ball?

- A. approximately  $75\,000 \text{ cm}^3$
- B. approximately  $311\,000 \text{ cm}^3$
- C. approximately  $594\,000 \text{ cm}^3$
- D. approximately  $2\,300\,000 \text{ cm}^3$

- 11 Using the ruler below, determine the length of the pencil.



- A.  $5\frac{1}{8}$ "  
B. 5.2"  
C.  $5\frac{1}{4}$ "  
D.  $7\frac{1}{8}$ "
- 12 Jung was told to plant trees two steps apart. Which of the following estimates is closest to "two steps apart"?
- A. 6 ft  
B. 3 m  
C. 60 cm  
D. 30 in
- 13 Which distance below is the longest?

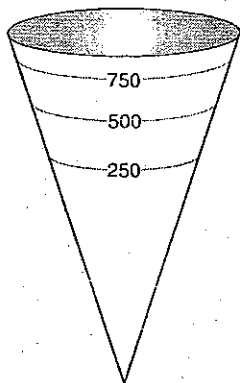
0.6 mi, 1000 yd, 1 km, 900 m

- A. 0.6 mi  
B. 1000 yd  
C. 1 km  
D. 900 m

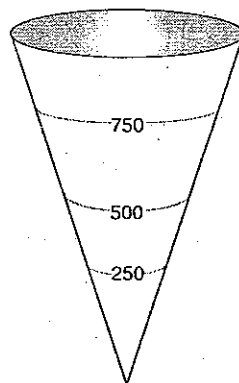
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A cone-shaped water tank has a volume of 1000 litres. Which diagram best represents the 250 L, 500 L and 750 L marks outside of the water tank?

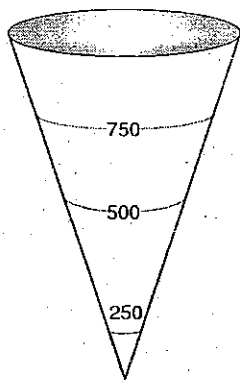
A.



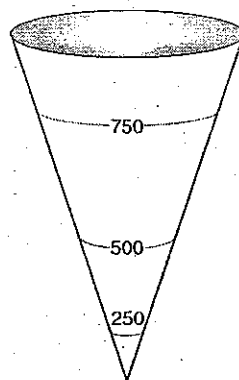
B.



C.



D.



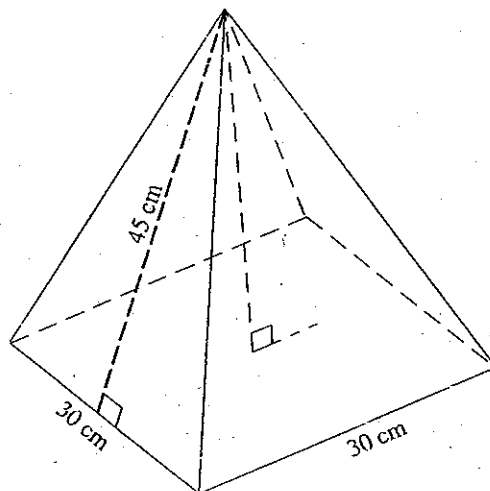
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A cylinder with a diameter of 10 cm and a height of 12 cm is half full of water. A sphere with a diameter of 5 cm is dropped into the cylinder. How far will the water level rise once the sphere is completely under the water?

- A. 0.57 cm
- B. 0.83 cm
- C. 5 cm
- D. 6 cm

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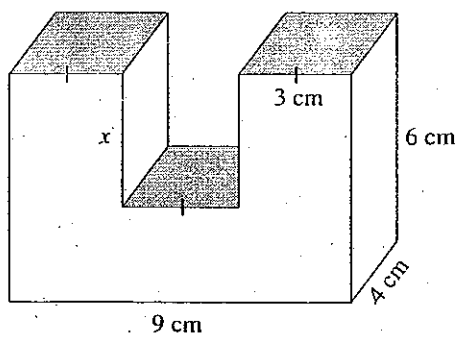
The slant height of the pyramid below is 45 cm. Calculate its volume.



- A.  $10\,062\text{ cm}^3$
- B.  $12\,728\text{ cm}^3$
- C.  $13\,500\text{ cm}^3$
- D.  $40\,500\text{ cm}^3$

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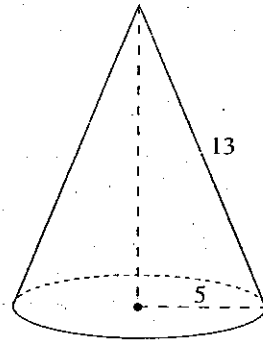
The volume of the object below is  $186\text{ cm}^3$ . Calculate the length of  $x$ .



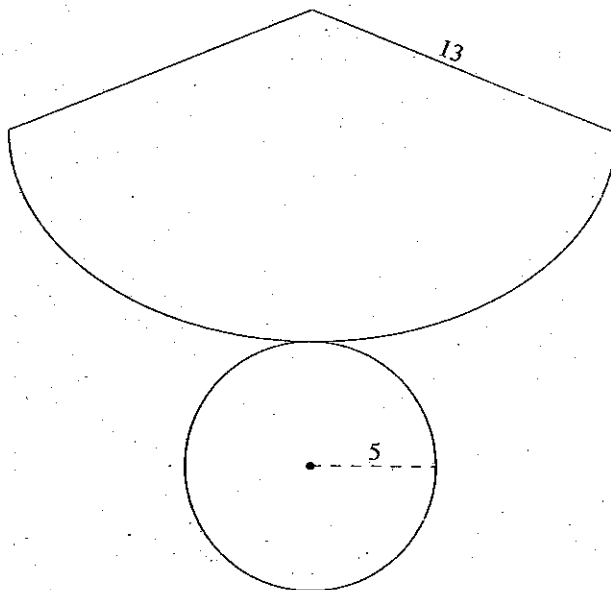
- A. 3.1 cm
- B. 2.5 cm
- C. 1.75 cm
- D. 1.25 cm

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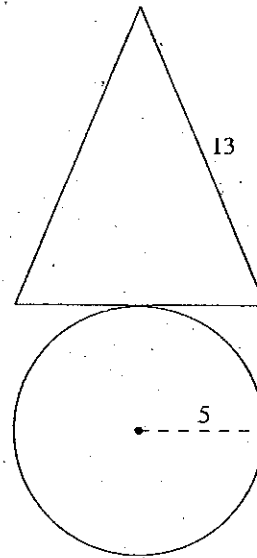
Which of the following net diagrams best constructs the cone below?



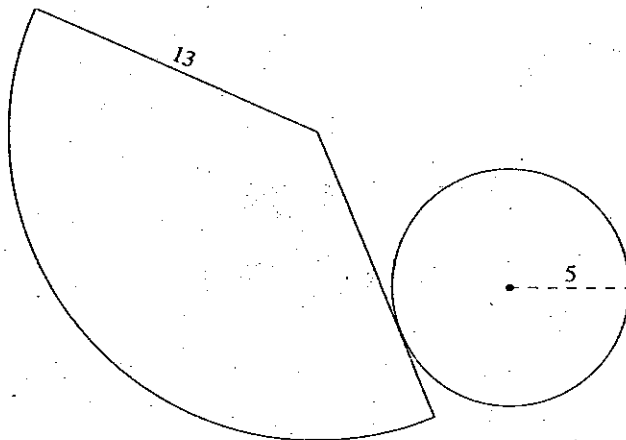
A.



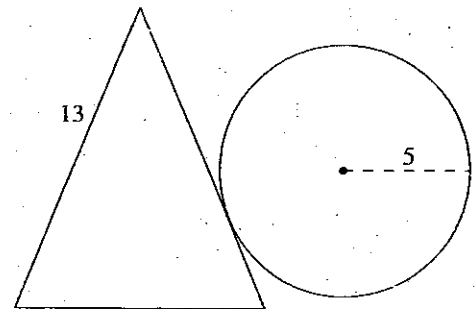
B.



C.



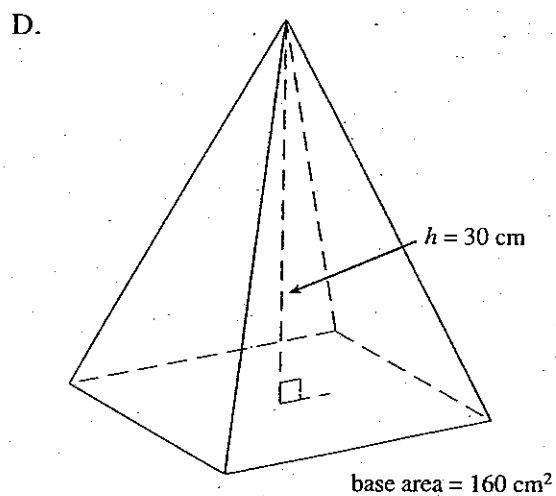
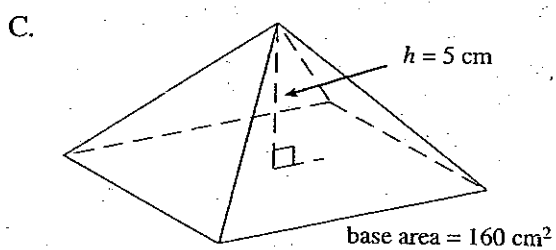
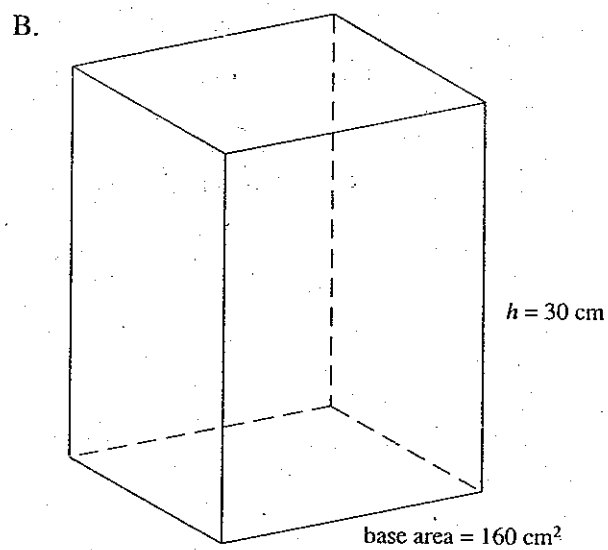
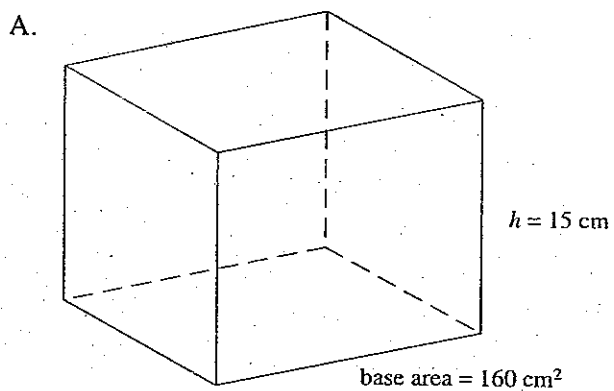
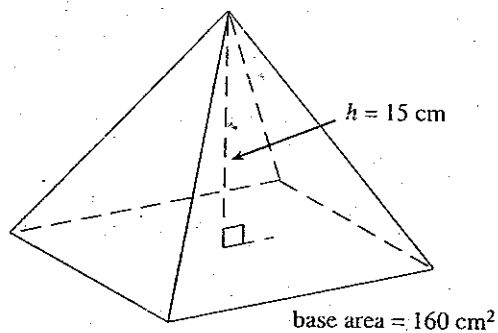
D.





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Which of the following shapes has a volume three times larger than the pyramid below?



Numerical Response

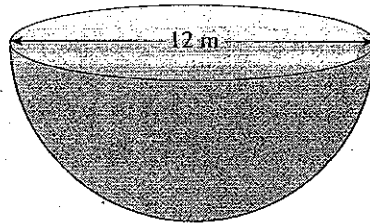
20. Convert 150 pounds into kilograms. Answer to the nearest kilogram.

Record your answer neatly on the Answer Sheet.

Answer

00 □□□□.□□

21. Calculate the surface area of the solid hemisphere below. Answer to the nearest square metre.



Record your answer neatly on the Answer Sheet.

Answer

00 □□□□.□□

