Math 1201 Final Exam Review
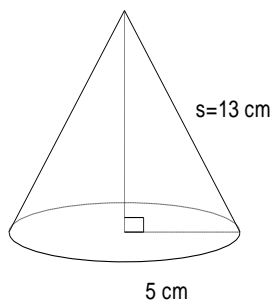
Measurement

Part A: Multiple Choice

1. Which expression would you use to calculate the lateral area of a right cone?

   (A) $\pi r^2 + \pi rs$ (B) πdh (C) $\frac{1}{3}\pi r^2 h$ (D) πrs

2. If a soccer ball has a diameter of 22 cm, how many cubic centimetres of air would be required to fully inflate the soccer ball?

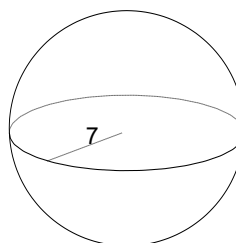   (A)   138
   (B)   276
   (C)   5572
   (D)   44602

3. Find, to the nearest square centimetre, the surface area of the figure (including the base).

   (A)   263 cm²
   (B)   273 cm²
   (C)   283 cm²
   (D)   293 cm²

s=13 cm
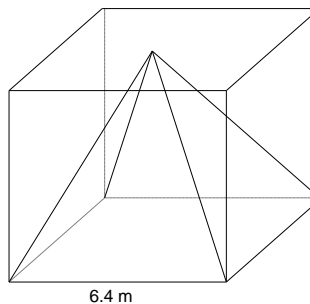
5 cm

4. To the nearest tenth of a cubic centimetre, what is the volume of the sphere if r = 7 in.?

   (A)   205.3 in³
   (B)   615.8 in³
   (C)   1436.8 in³
   (D)   2212.4 in³

7

5. What is the volume of the pyramid that just fits inside the cube with side length 6.4m?

   (A)   13.65m³
   (B)   87.38m³
   (C)   262.14m³
   (D)   785.43m³

6.4 m

6. A cone and a cylinder have the same height and the same base radius. If volume of the cylinder is 81 cm³, what is the volume of the cone in cm³?
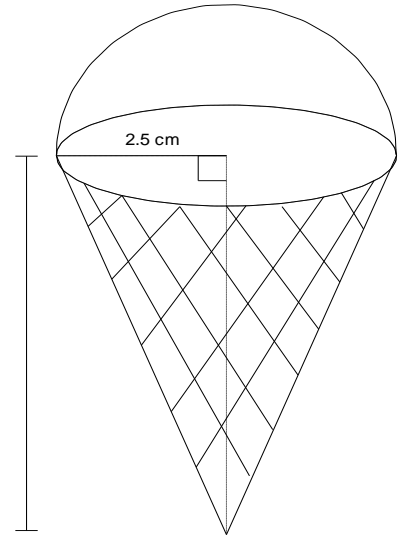
(A) 9   (B) 27   (C) 78   (D) 243

7. A cone has a volume of 30 cm³ and a base of 15 cm². What is the height of the cone?

(A)   2 cm   (B)   4 cm   (C)   6 cm

8. A picture of an ice cream cone is shown to the right. If the ice cream fills the entire cone, how much ice cream is there?
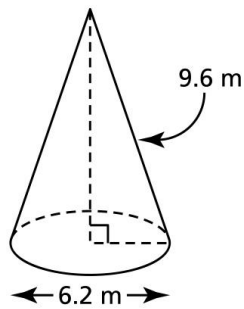
(A)   81.8cm³
(B)   88.36cm³
(C)   114.5cm³
(D)   127.6cm³
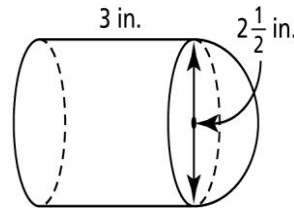
2.5 cm

Part B: Answer the questions in the space provided

1. Give your answers to the nearest unit.
   a) Find the Volume

9.6 m

6.2 m

   b) Find the Surface Area

3 in. $2\frac{1}{2}$ in.

2. A right prism and a right pyramid have the same base and the same height. Explain how their volumes are related.

3. The surface area of a sphere is 137.5 cm². What is the radius of the sphere to the nearest tenth of a centimetre?

4. The volume of a right square pyramid is 126 cubic feet. The side length of the base is 8 ft.
   a) Sketch the pyramid.
   b) Determine the height of the pyramid to the nearest foot.
   c) What is the slant height of the pyramid to the nearest foot?