

JULY 2019  
EBS 124/124J  
COLLEGE GEOMETRY  
30 MINUTES

Candidate's Index Number
Signature: _____

UNIVERSITY OF CAPE COAST  
COLLEGE OF EDUCATION STUDIES  
SCHOOL OF EDUCATIONAL DEVELOPMENT AND OUTREACH  
INSTITUTE OF EDUCATION

COLLEGES OF EDUCATION  
FOUR-YEAR BACHELOR OF EDUCATION (B. ED)  
FIRST YEAR, SECOND SEMESTER QUIZ II, JULY 2019

JULY 1, 2019

COLLEGE GEOMETRY

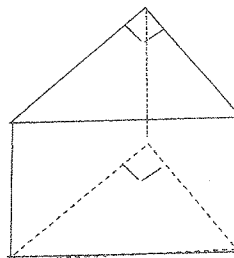
8:00 AM – 8:30 AM

Answer ALL the questions.

For items 1 to 15, each stem is followed by four options lettered A to D. Read each item carefully and circle the letter that corresponds to the correct or best option.

1. What is the correct name of the solid figure shown below?

- A. Rectangular prism
- B. Tetrahedron
- C. Triangular prism
- D. Triangular pyramid



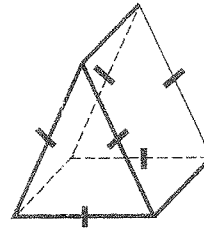
2. The height of a pyramid on a square base is 18 cm. If the length of a side of the base is 5 cm, find the volume of the pyramid.

- A.  $125 \text{ cm}^3$
- B.  $150 \text{ cm}^3$
- C.  $324 \text{ cm}^3$
- D.  $450 \text{ cm}^3$

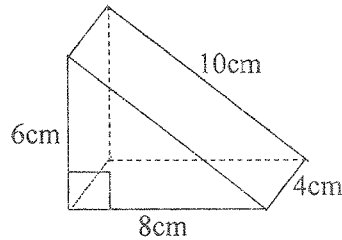
3. A closed rectangular metal box is 90 cm long, 60 cm wide and 45 cm high. Calculate the minimum amount of metal used to make the box.

- A.  $12150 \text{ cm}^2$
- B.  $24300 \text{ cm}^2$
- C.  $243000 \text{ cm}^2$
- D.  $36400 \text{ cm}^2$

4. The solid figure below is a pyramid with a square base. This statement is \_\_\_\_\_.
- A. False  
 B. Not always false  
 C. True



5. Find the surface area of the figure shown below.
- A.  $72 \text{ cm}^2$   
 B.  $96 \text{ cm}^2$   
 C.  $120 \text{ cm}^2$   
 D.  $144 \text{ cm}^2$



6. A 182 cm long cylindrical plastic pipe has a diameter of 10 cm. how much plastic is used to make the pipe? (Take  $\pi = \frac{22}{7}$ )
- A.  $5720 \text{ cm}^2$   
 B.  $5877 \text{ cm}^2$   
 C.  $11444 \text{ cm}^2$   
 D.  $14300 \text{ cm}^2$

The radius of a sphere is 21cm. Use the information to answer questions 7 and 8. Take  $\pi = 3.14$ . and round your answer to the nearest whole number.

7. What is the surface area of the sphere?
- A.  $1846 \text{ cm}^2$   
 B.  $5539 \text{ cm}^2$   
 C.  $38772 \text{ cm}^2$   
 D.  $116318 \text{ cm}^2$
8. Calculate the volume of the sphere.
- A.  $1846 \text{ cm}^3$   
 B.  $5539 \text{ cm}^3$   
 C.  $38772 \text{ cm}^3$   
 D.  $116318 \text{ cm}^3$

9. A rectangular box has a base measuring 70 cm by 50 cm. The height of the box is 38 cm. What is the maximum number of unit centimeter cubes that can fill the box?
- 8060  $\text{cm}^3$
  - 16120  $\text{cm}^3$
  - 31600  $\text{cm}^3$
  - 133000  $\text{cm}^3$

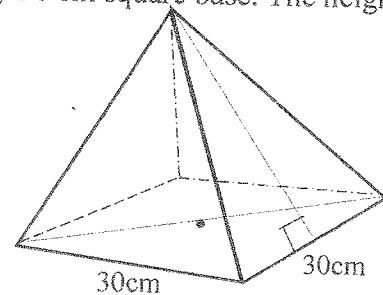
10. Which one of the following statements is **always true** about pyramids? The base is a \_\_\_\_\_
- circle and lateral sides are triangles.
  - polygon and lateral sides are rectangles.
  - polygon and the lateral sides are triangles.
  - triangle and the lateral sides are polygons.

A circular drum, closed at both ends, has a radius of 20 cm and height of 105 cm. Use the information to answer questions 11 and 12. (Take  $\pi = \frac{22}{7}$ )

11. Find, correct to one decimal place, the total surface area of the drum.
- 2514.3  $\text{cm}^2$
  - 13200.0  $\text{cm}^2$
  - 15714.3  $\text{cm}^2$
  - 132000.0  $\text{cm}^2$
12. Calculate the maximum amount of oil the drum can contain.
- 13200  $\text{cm}^3$
  - 15714  $\text{cm}^3$
  - 25143  $\text{cm}^3$
  - 132000  $\text{cm}^2$

13. The diagram below is a sketch of a pyramid with a 30 cm by 30 cm square base. The height of the pyramid is 15 cm. Calculate the slant height.

- 21.2 cm
- 21.8 cm
- 25.5 cm
- 33.5 cm



14. Find the volume of a cone with a height of 45 cm and a diameter of 60 cm. (Take  $\pi = 3.14$ )
- A.  $1413 \text{ cm}^3$
  - B.  $4239 \text{ cm}^3$
  - C.  $43\,390 \text{ cm}^2$
  - D.  $127170 \text{ cm}^3$
15. What are the coordinates of the point which divides the line joining A(1, 2) and B(6, 7) internally in the ratio 2:3?
- A. (3, 4)
  - B. (3, 5)
  - C. (4, 3)
  - D. (4, 5)