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, FIRST SEMESTER MID-SEMESTER QUIZ, MARCH 2022

MARCH 21, 2022   ELEMENTARY GEOMETRY   12:00 PM – 12:25 PM

Answer ALL the questions.
**[20 MARKS]**

Items 1 to 3 are statements followed by True and False options. Read each statement carefully and indicate whether it is True or False by circling the letter of the correct option.

1. Perpendicular lines do **not** have to be vertical and horizontal.
   A. True
   B. False

2. Vertically opposite angles are formed only when we have parallel lines.
   A. True
   B. False

3. If two angles of one triangle are congruent to two angles of another triangle, then their thirds are also congruent.
   A. True
   B. False

For items 4 to 20, each stem is followed by four options lettered A to D. Read each item carefully and circle the letter of the correct or best option.

4. Two angles are supplementary with one of the angles being 40^0 more than four times the other. Find the measures of the two angles.
   A. 20^0 and 160^0
   B. 28^0 and 152^0
   C. 40^0 and 140^0
   D. 68^0 and 112^0

5. If two parallel lines are cut by a transversal, then the exterior angles on the same side of the transversal are …………….
   A. complementary.
   B. corresponding.
   C. supplementary.
   D. vertically opposite.

6. Calculate for the value of x using the figure below.
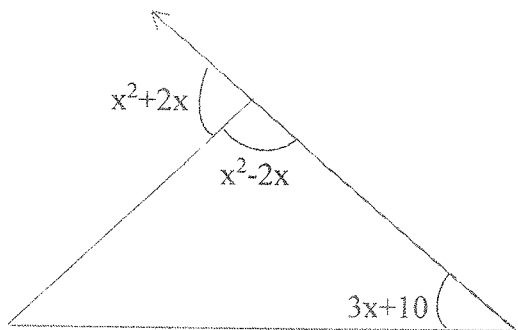
   A. 5^0
   B. 10^0
   C. 40^0
   D. 80^0

7. Which one of the following sets of points do **not** represent the sides of a right angle triangle?
   I.   3,4, and 5
   II. 3,4, and 8
   III. 3,4, and 9

   A. I only
   B. II only
   C. I and II only
   D. II and III only

8. In pentagon ABCDE with $\angle ABC = \angle CDE = \angle DEC$, find the measure of interior angle D.

   A. 93^0
   B. 118^0
   C. 186^0
   D. 354^0
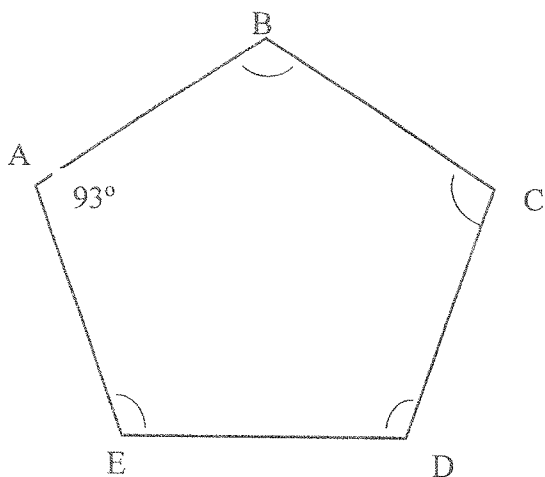
9. What is the length of the diagonal in a rectangle whose sides measure 6cm and 8cm?
   A. 10cm
   B. 14cm
   C. 18cm
   D. 24cm

10. Determine the type of triangle represented if the lengths of its sides are $9, 12, 15$.
    A. Acute.
   B. No triangle.
    C. Obtuse.
    D. Right angle.

11. The exterior angle of a polygon is 36^0. What is the size of each interior angle?
    A. 40°
    B. 120°
    C. 144°
    D. 180°

12. To construct $\angle ABC = 135^\circ$, first construct 90° at ....
    A. A and then bisect the other 90°.
    B. A, then 60° at the other side of and then bisect 30° in between.
    C. B and then bisect the other 90°.
    D. B, then 60° at the other side B and then bisect 30° in between.

13. Given that O is the centre of the circle and angle $\angle OCB = 47^\circ$ as shown in the diagram below, find the value of the angle marked x.
    A. 43°
    B. 76°
    C. 86°
    D. 172°
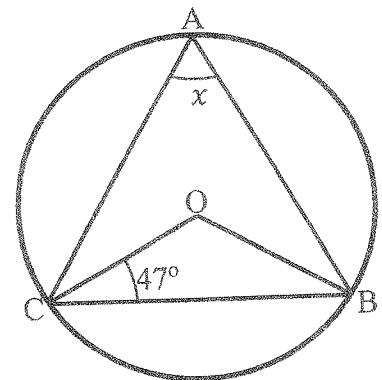
14. Calculate the value of angle $\angle QPR$ in the diagram below.
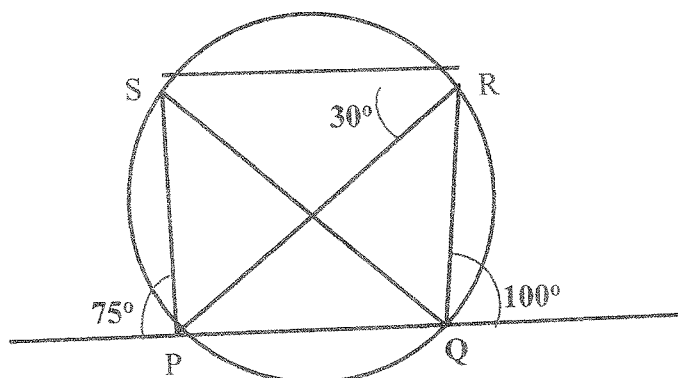
   A. 30°
   B. 45°
   C. 55°
   D. 75°

In the diagram below, O is the centre of the circle and the angle between the tangent and the chord CB is 52°.
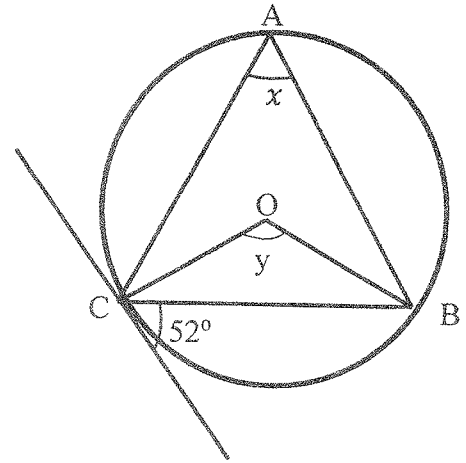
15. What is the value of angle∠OCB.
    A. 32°
    B. 36°
    C. 38°
    D. 42°

16. Find the value of angle ∠ACB.
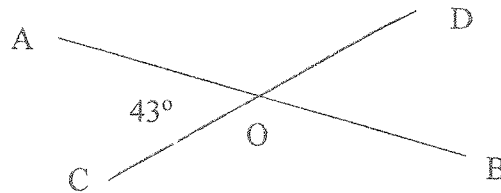   A. 26°
    B. 32°
    C. 52°
    D. 64°

17. Calculate the value of $x + y$.
    A. 52°
    B. 76°
    C. 104°
    D. 156°

Given that two straight lines AB and CD intersect at O and that $\angle AOC = 43°$, use the information provided to answer questions 18 – 20.

18. Which one of the following gives the measure of $\angle AOD$ and the correct reason?
    A. 43° (vertically opposite angle).
    B. 47° (complementary angle).
    C. 133° (reflex angle).
    D. 137° (supplementary angle).

19. Which one of following gives the measure of $\angle DOB$ and the correct reason?
    A. 43° (vertically opposite angle).
    B. 47° (complementary angle).
    C. 133° (reflex angle).
    D. 137° (supplementary angle).

20. Which one of following gives the measure of $\angle BOC$ and the correct reason?
    A. 43° (vertically opposite angle).
    B. 137° (obtuse angle).
    C. 137° (complementary angle).
    D. 137° (vertically opposite angle).