

JANUARY 2020
EBS 145
ELEMENTARY 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
FIRST YEAR, FIRST SEMESTER MID SEMESTER QUIZ, JANUARY 2020

JANUARY 27, 2020

ELEMENTARY GEOMETRY

12:00 PM – 12:30 PM

(20 MARKS)

For items 1 to 20, 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.

- Two interior angles of an octagon is such that one is 42° more than the other. The remaining angles are 150° each. Find the measure of the bigger of the two remaining interior angles of this polygon.
A. 42°
B. 69°
C. 111°
D. 192°
- Which of the following best describes a perpendicular bisector of a line? It
A. divides a line segment into two.
B. divides a line segment into two equal parts.
C. divides a right angle in to two parts.
D. divides an angle into two equal parts.
- Which of the following processes is true about constructing an angle at a point on a straight line?
Constructing at the other side of the same point.
A. 90° at one side of a point on the line is the same as constructing 45°
B. 105° at one side of a point on the line is the same as constructing 80°
C. 135° at one side of a point on the line is the same as constructing 45°
D. 150° at one side of a point on the line is the same as constructing 60°

4. Which of the following sets of points represents the sides of a triangle?

- I. 3,4, and 5
- II. 3,6, and 8
- III. 3,4, and 9

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

5. Given that $\angle P$ and $\angle Q$ are complementary, where $\angle P = \frac{x}{2}$ and $\angle Q = \frac{x}{3}$, what is the measure of x ?

- A. 36°
- B. 54°
- C. 90°
- D. 108°

Use the information below to answer questions 6 to 8.

P, Q and T are points on the circumference of a circle with centre O . The line AB is the tangent to the circle at $T, PQ = TQ, \angle ATP = 58^\circ$

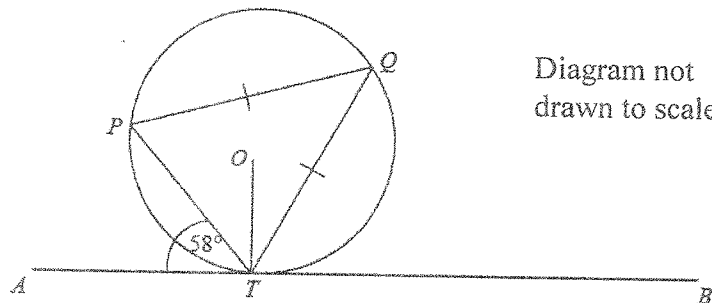


Diagram not drawn to scale

6. Calculate $\angle OTQ$

- A. 29°
- B. 32°
- C. 61°
- D. 90°

7. Calculate $\angle PTQ$

- A. 32°
- B. 58°
- C. 61°
- D. 122°

8. Calculate $\angle PTB$

- A. 32°
- B. 61°
- C. 90°
- D. 122°

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

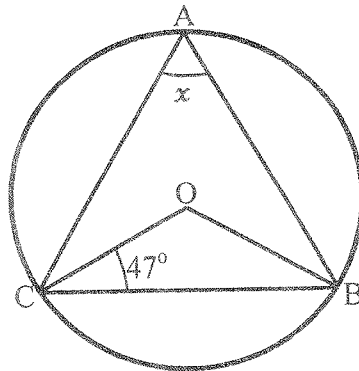
10. Determine the type of triangle represented if the lengths of its sides are 9, 12, 15.
- A. Acute
 - B. Obtuse
 - C. Right angle
 - D. No triangle.

11. The exterior angle of a polygon is 36° . 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.

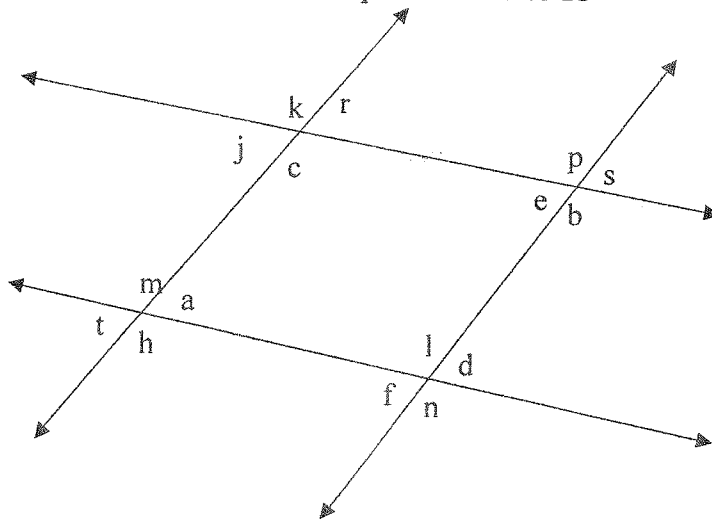
13. Given that O is the centre of the circle and angle $OCB = 47^\circ$ as shown in the diagram below, find the value of the angle marked x .

- A. 43°
- B. 76°
- C. 86°
- D. 172°



14. If $\angle x$ and $\angle y$ are supplementary, find $2(x + y) - 2y$ if $\angle x = 71^\circ$.
- A. 109°
 - B. 132°
 - C. 142°
 - D. 218°

Use the diagram below to answer questions 15 to 18



15. Name the relationship between the angles marked k and m .
- A. Alternate angles.
 - B. Co-interior angles.
 - C. Corresponding angles.
 - D. Vertically opposite angles.
16. Which of the following best describes the relationship between the angles marked b and d ?
- A. Alternate angles.
 - B. Co-interior angles.
 - C. Corresponding angles.
 - D. Vertically opposite angles.
17. Given that the angle marked $b = 60^\circ$, what is the value of angle m ?
- A. 180°
 - B. 120°
 - C. 60°
 - D. 40°
18. Given that the angle marked $l = 120^\circ$, find the value of the angle marked e .
- A. 120°
 - B. 180°
 - C. 60°
 - D. 40°

19. The locus of a point which moves in a plane such that it is equidistant from two fixed points is the

- A. circle.
- B. angle bisector.
- C. perpendicular bisector.
- D. parallel lines.

20. When two straight lines intersect, the pairs of nonadjacent angles in opposite positions are known as

- A. complementary angles.
- B. supplementary angles.
- C. vertically opposite angles.
- D. co-interior angles.

