FEBRUARY 2021
EBS 145
ELEMENTARY GEOMETRY
30 MINUTES

Candidate's Index Number:
Signature:

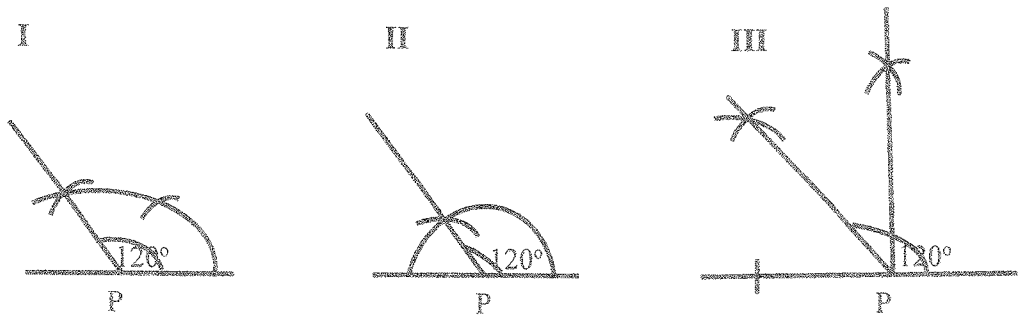
UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
SCHOOL OF EDUCATIONAL DEVELOPMENT AND OUTREACH
INSTITUTE OF EDUCATION

COLLEGES OF EDUCATION
FOUR-YEAR BACHELOR OF EDUCATION (B.ED)
FIRST YEAR, FIRST SEMESTER MID SEMESTER QUIZ, FEBRUARY 2021

FEBRUARY 22, 2021 **ELEMENTARY GEOMETRY** **12:00 PM – 12:30 PM**

Answer ALL the questions.
(20 MARKS)

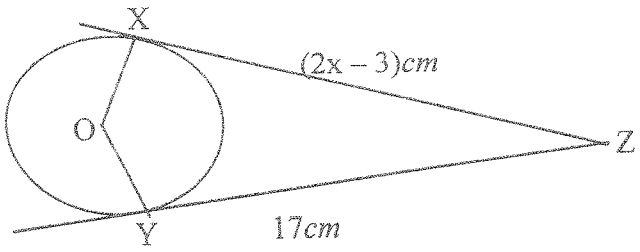
Items 1 to 20 are stems followed by four options lettered A to D. Read each item carefully and circle the letter that corresponds to the correct or best option.



1. Which of the sketches above gives the correct method for constructing an angle of 120° at the point P?
   A. I only
   B. I and II only
   C. II and III only
   D. II only

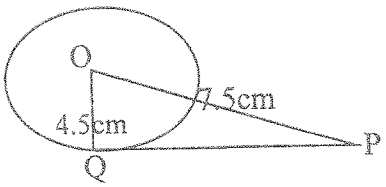
2. If two angles are subtended by the same chord at the circumference of a circle, what then is the relationship between the two angles produced at the circumference?
   A. Both angles are equal.
   B. Both angles obey Pythagoras Theorems.
   C. Both angles sum up to 90°.
   D. One is a multiple of the other.

3. Find the value of x in the diagram below given that XZ and YZ are tangents to the circle with centre O.



A. $5cm$
B. $7cm$
C. $10cm$
D. $15cm$

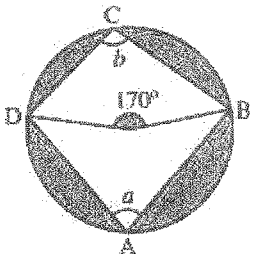
4. A point P outside a circle is $7.5cm$ from the centre O, of a circle of radius $4.5cm$. Find the length of the tangent to the circle.



A. $6cm$
B. $18cm$
C. $36cm$
D. $76.5cm$

5. The movement of a point in the Cartesian coordinate plane in relation to a fixed point in the same plane is a/an .....
   A. angle bisector.
   B. circle.
   C. parallel lines.
   D. perpendicular bisector.

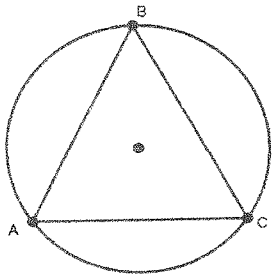
6. Given the figure blow, find the value of the angle marked b.



A. 60°
B. 70°
C. 95°
D. 100°

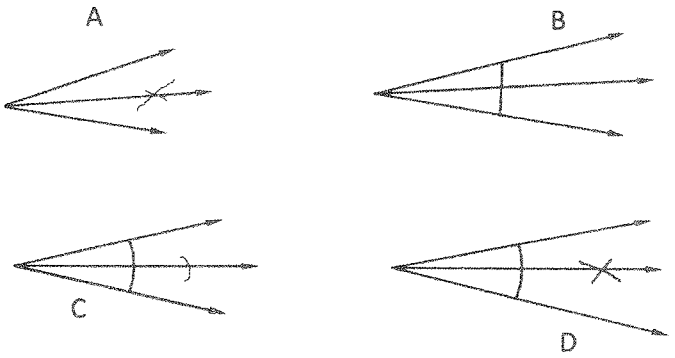
13. Find the value of x if $(x + 2)$ and $(x - 10)$ are complementary angles.
    A. 49°
    B. 59°
    C. 69°
    D. 79°

14. In the triangle, ABC, sides AB and CB have equal lengths and the measure of angle ABC is equal to 36 degrees. What is the measure of angle BOC where O is the center of the circle?

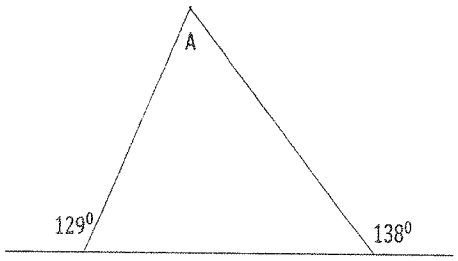


A. 18
B. 126
C. 144
D. 162

15. Which diagram shows a correct mathematical construction using only a compass and a straight edge to bisect an angle?



16. Find the measure of angle A in the figure below.

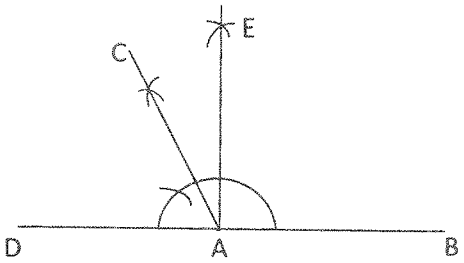


A. 42°
B. 51°
C. 87°
D. 93°

17. Given that Angles A and B are complementary and that the measure of angle A is twice the measure of angle B, find the measures of angles A and B respectively.
A. <A=20° and < B=40°
B. <A=30° and < B=60°
C. <A=40° and < B=20°
D. <A=60° and <B=30°

18. If $< x$ *and* $< y$ *are supplementary, find* $2(x + y) - 2y$ *if* $< x = 71°$
A. 109°
B. 132°
C. 142°
D. 218°

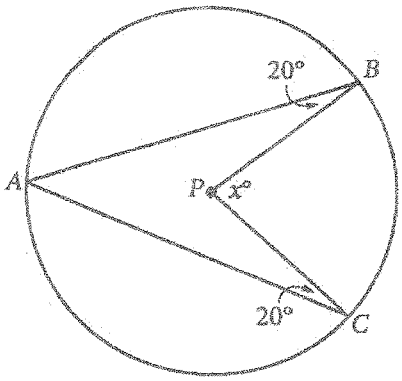
19. From the diagram shown below what is the measure of $\angle CAE$?



A. 15^0
B. 75^0
C. 105^0
D. 120^0

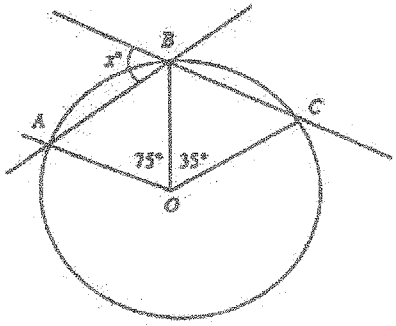
20. Which of the following processes is **true** about constructing an angle at a point on a straight line? Constructing ..... at the other side of the same point.
A. 90^0 at one side of a point on the line is the same as constructing 45^0.
B. 105^0 at one side of a point on the line is the same as constructing 80^0.
C. 135^0 at one side of a point on the line is the same as constructing 45^0.
D. 150^0 at one side of a point on the line is the same as constructing 60^0.

7. The point P is the centre of the circle in the figure below. What is the value of x?



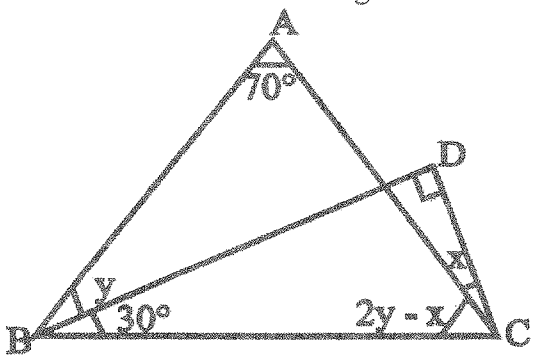
A. 60^0
B. 70^0
C. 80^0
D. 50^0

8. In the figure A, B, and C are points on the circumfrence of the circle with centre O. What is the value of x ?



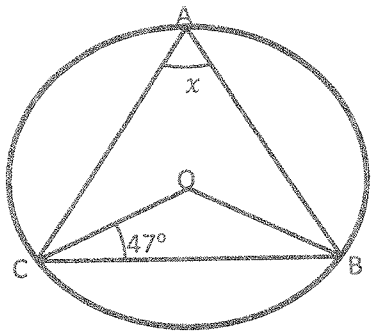
A. 52.5^0
B. 55^0
C. 70^0
D. 72.5^0

9. What is the value of sum of angles <DCA and <ABD in the figure below?



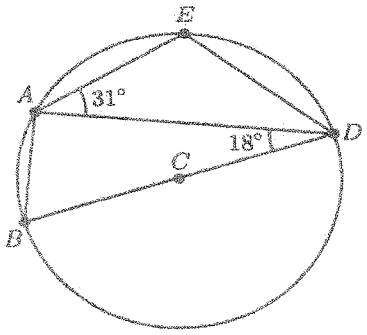
A. 40°
B. 50°
C. 70°
D. 100°

10. Given that O is the centre of the circle and angle OCB = 47° as shown in the diagram below, find the value of the angle marked x.



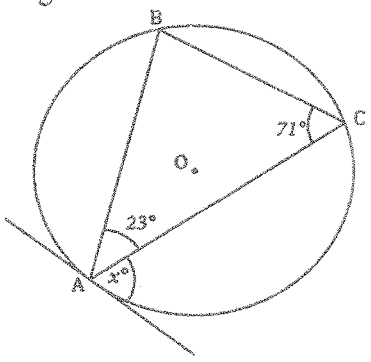
A. 43°
B. 76°
C. 86°
D. 172°

11. Below is a circle with centre, C. A, B, D and E are points on the circumference. BD is a diameter of the circle. Angle CDA is 18^0 and angle DAE is 31^0. Find the size of angle ADE.



A. 18^0
B. 41^0
C. 59^0
D. 121^0

12. Below is a circle with centre O. A, B and C are points on the circumference. A tangent to the circle passes through a point A. Given that angle BAC is 23^0 and angle ABC is 71^0, find the size of angle x^0



A. 23^0
B. 71^0
C. 86^0
D. 94^0