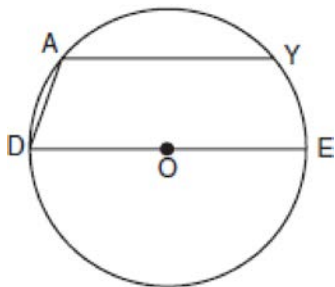


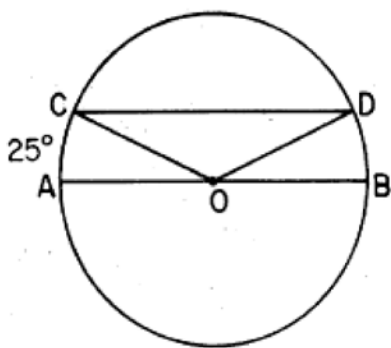
G.G.52: Chords and Secants 2: Investigate, justify, and apply theorems about arcs of a circle cut by two parallel lines

- 1 In the accompanying diagram of circle O , chord \overline{AY} is parallel to diameter \overline{DOE} , \overline{AD} is drawn, and $m\widehat{AD} = 40$.



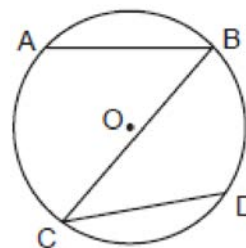
What is $m\angle DAY$?

- 1) 90
 - 2) 110
 - 3) 130
 - 4) 150
- 2 In the accompanying diagram, chord \overline{CD} is parallel to diameter \overline{AB} . If $m\widehat{AC} = 25$, what is $m\angle COD$?



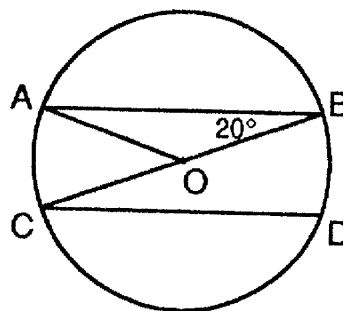
- 1) 25
- 2) 65
- 3) 130
- 4) 155

- 3 In the accompanying diagram of circle O , $\widehat{AB} \cong \widehat{CD}$.

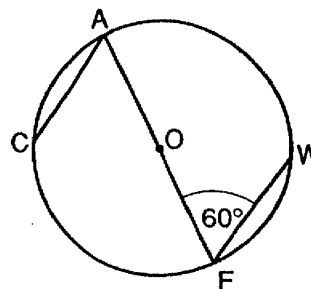


Which statement is true?

- 1) $\overline{AB} \cong \overline{CD}$
 - 2) $\widehat{AC} \cong \widehat{BD}$
 - 3) $\overline{AB} \parallel \overline{CD}$
 - 4) $\angle ABC \cong \angle BCD$
- 4 In the accompanying diagram of circle O , $\overline{AB} \parallel \overline{CD}$, \overline{BC} is a diameter, and radius \overline{AO} is drawn. If $m\angle ABC = 20$, find $m\widehat{BD}$.



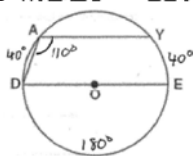
- 5 In the accompanying diagram of circle O , chords \overline{AC} and \overline{WF} are drawn, \overline{AOF} is a diameter, $\overline{AC} \parallel \overline{WF}$, and $m\angle AFW = 60$. Find $m\widehat{AC}$.



G.G.52: Chords and Secants 2: Investigate, justify, and apply theorems about arcs of a circle cut by two parallel lines
Answer Section

1 ANS: 2

Parallel chords intercept equal arcs. If $m\widehat{AD} = 40$, then $m\widehat{EY} = 40$ as well. The diameter of a circle divides the circle into two 180° arcs. So $m\widehat{DEY} = 220$. The measure of an inscribed angle is half that of



its intercepted arc. So $m\angle DAY = 110$.

REF: 060603b

2 ANS: 3

REF: 088519siii

3 ANS: 1

REF: 060811b

4 ANS:

40

REF: 069403siii

5 ANS:

60

REF: 019501siii