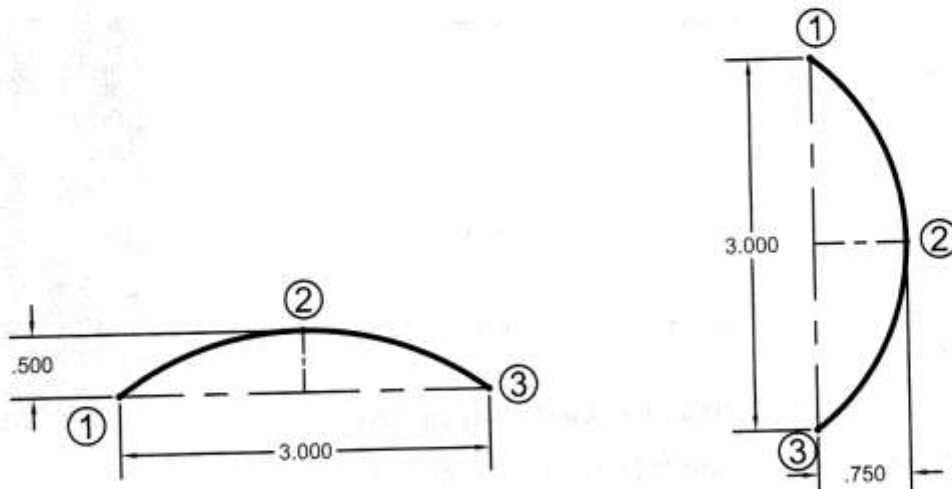


EXERCISE 22A

INSTRUCTIONS:

1. Start a **New** file using **Border A-2015.dwt**
2. Draw the center lines first on layer Center line.
3. Draw the **3 Point Arcs** using Layer Object Line.
Place the **1st point** at location ① **2nd point** at location ② and **3rd point** at location ③
4. Dimension as shown using Dimension Style Class Style and Layer Dimension.
5. Edit the Title and Ex-XX by double clicking on the text. Do not erase and replace.
6. Save as **EX22A**
7. Plot using Page Setup **Class Model A**



Your Name Here

3 Point Arc

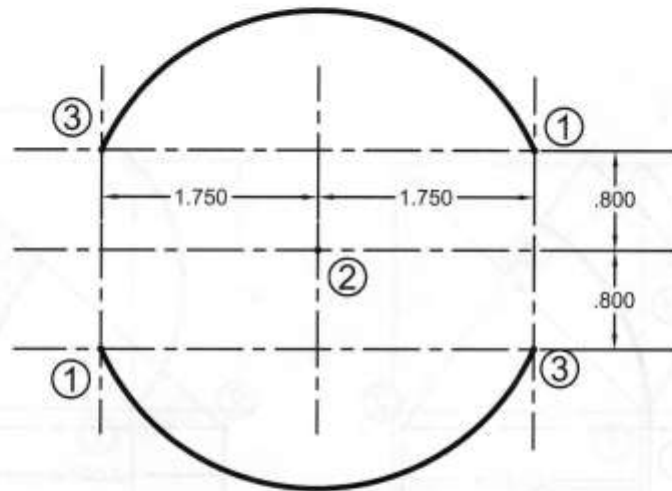
Ex-22A

EXERCISE 22B

INSTRUCTIONS:

1. Start a **New** file using **Border A-2015.dwt**
2. Draw the center lines first on layer Center line.
3. Draw the 2 Arcs using method **Start, Center, End** on Layer Object Line.
Place the **Start** at location ①, **Center** at location ② and **End** at location ③.
4. Dimension as shown using Dimension Style Class Style and Layer Dimension.
5. Edit the Title and Ex-XX by double clicking on the text. Do not erase and replace.
6. Save as **EX22B**
7. Plot using Page Setup **Class Model A**

Note: By default these arcs are always drawn counter-clockwise from the start point. Hold down the **Ctrl** key to draw in a clockwise direction.



Your Name Here

Start, Center, End

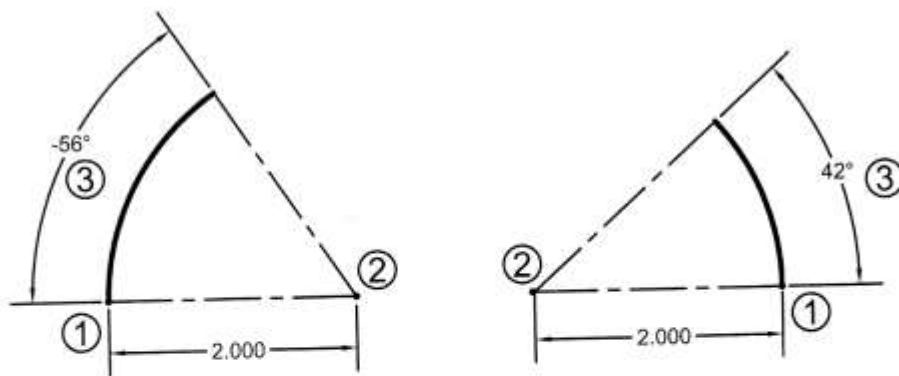
Ex-22B

EXERCISE 22C

INSTRUCTIONS:

1. Start a **New** file using **Border A-2015.dwt**
2. Draw the center lines first on layer Center line.
3. Draw the 2 Arcs using method **Start, Center, Angle** on Layer Object Line.
Place the **Start** at location ①, **Center** at location ② and enter **Angle** ③.
4. Dimension as shown using Dimension Style Class Style and Layer Dimension.
5. Edit the Title and Ex-XX by double clicking on the text. Do not erase and replace.
6. Save as **EX22C**
7. Plot using Page Setup **Class Model A**

Note: Positive angles are drawn counter-clockwise, negative angles are drawn clockwise. To reverse the directions hold down the **Ctrl** key.



Your Name Here

Start, Center, Angle

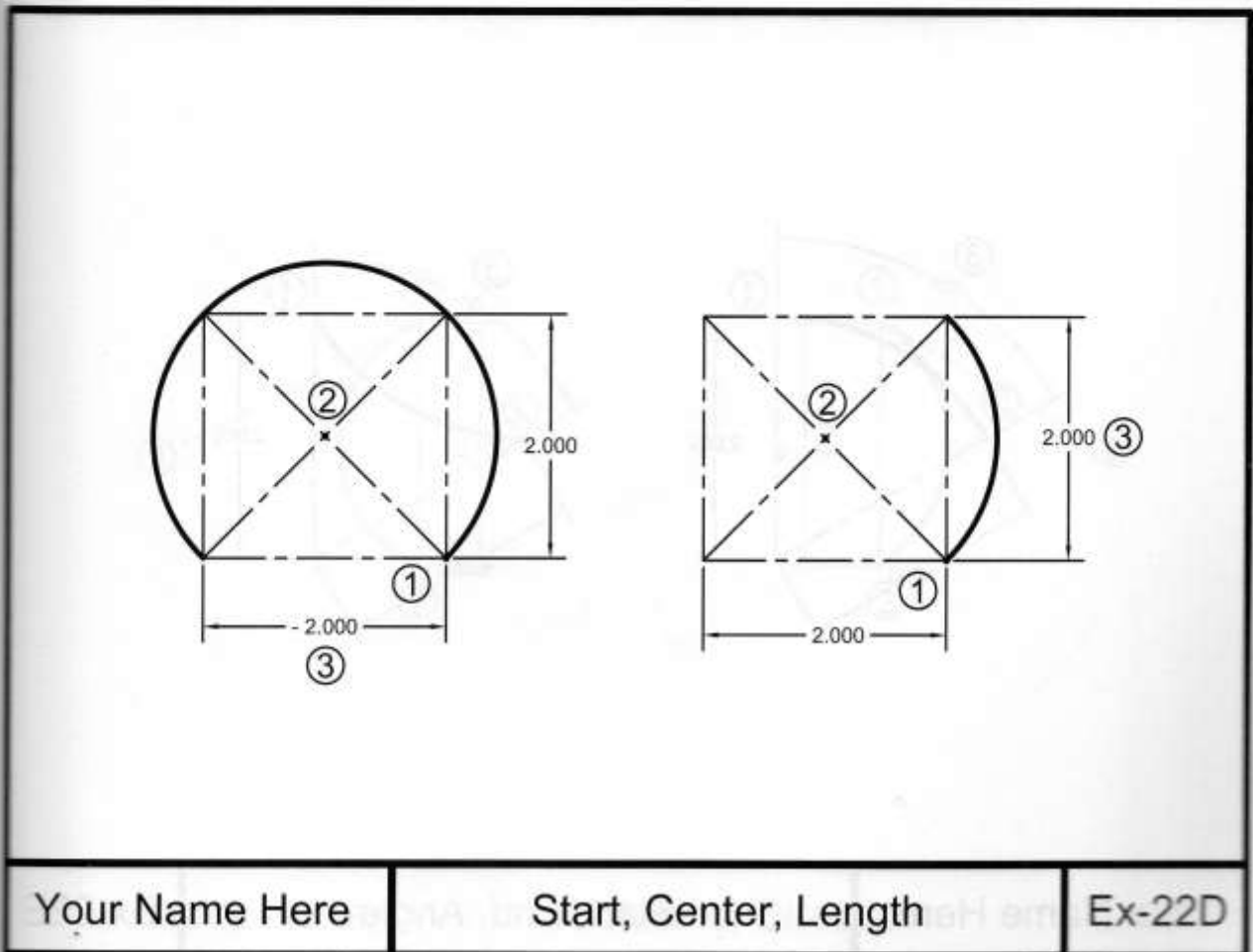
Ex-22C

EXERCISE 22D

INSTRUCTIONS:

1. Start a **New** file using **Border A-2015.dwt**
2. Draw the center lines first on layer Center line.
3. Draw the 2 Arcs using method **Start, Center, Length** on Layer Object Line.
Place the **Start** at location ①, **Center** at location ② and enter **Length of Chord** ③.
4. Dimension as shown using Dimension Style Class Style and Layer Dimension.
5. Edit the Title and Ex-XX by double clicking on the text. Do not erase and replace.
6. Save as **EX22D**
7. Plot using Page Setup **Class Model A**

Note: Positive Chord length draws the small segment counter-clockwise, negative Chord length draws the large segment counter-clockwise. To reverse the directions hold down the **Ctrl** key.

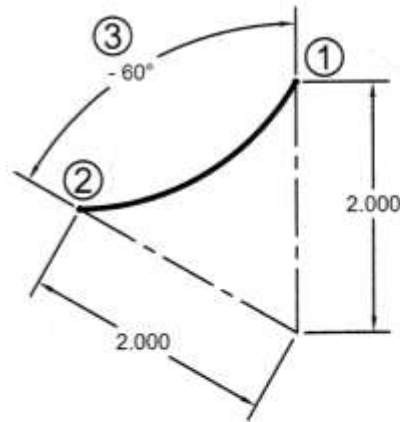
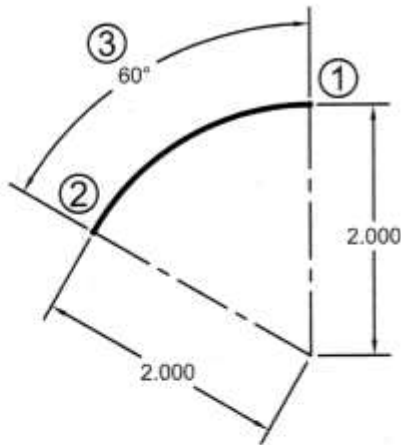


EXERCISE 22E

INSTRUCTIONS:

1. Start a **New** file using **Border A-2015.dwt**
2. Draw the center lines first on layer Center line.
3. Draw the 2 Arcs using method **Start, End, Angle** on Layer Object Line.
Place the **Start** at location ①, **End** at location ② and enter **Angle** ③
4. Dimension as shown using Dimension Style Class Style and Layer Dimension.
5. Edit the Title and Ex-XX by double clicking on the text. Do not erase and replace.
6. Save as **EX22E**
7. Plot using Page Setup **Class Model A**

Note: Positive Angle draws the arc counter-clockwise, negative Angle draws the arc clockwise. To reverse the directions hold down the **Ctrl** key.



Your Name Here

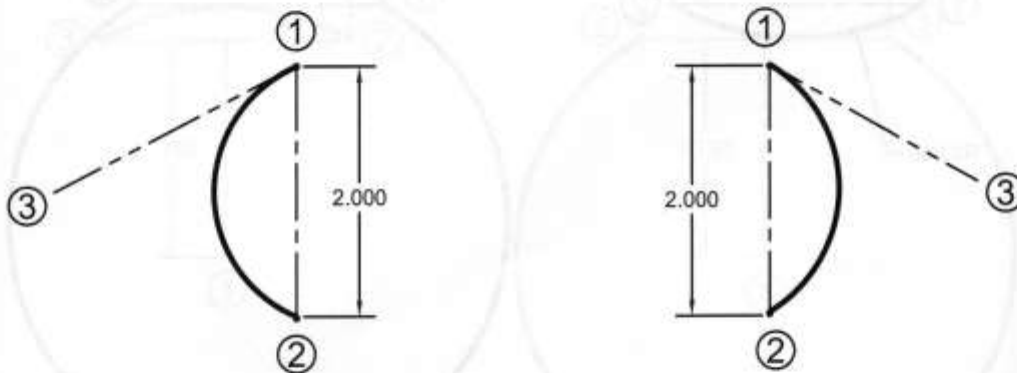
Start, End, Angle

Ex-22E

EXERCISE 22F

INSTRUCTIONS:

1. Start a **New** file using **Border A-2015.dwt**
2. Draw the center lines first on layer Center line.
3. Draw the 2 Arcs using method **Start, End, Direction** on Layer Object Line.
Place the **Start** at location ①, **End** at location ② and move your cursor in the **Direction** of ③.
4. Dimension as shown using Dimension Style Class Style and Layer Dimension.
5. Edit the Title and Ex-XX by double clicking on the text. Do not erase and replace.
6. Save as **EX22F**
7. Plot using Page Setup **Class Model A**



Your Name Here

Start, End, Direction

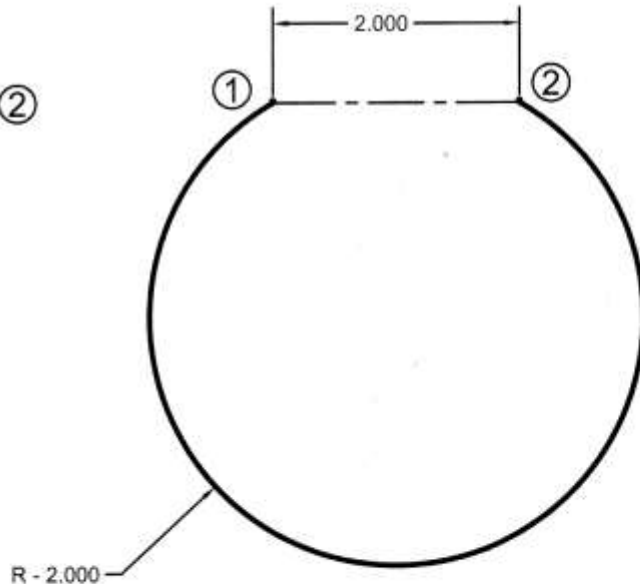
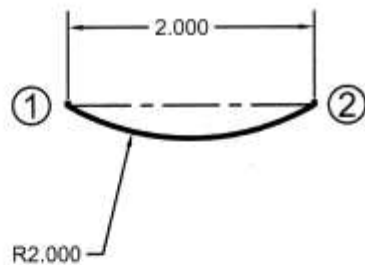
Ex-22F

EXERCISE 22G

INSTRUCTIONS:

1. Start a **New** file using **Border A-2015.dwt**
2. Draw the center lines first on layer Center line.
3. Draw the 2 Arcs using method **Start, End, Radius** on Layer Object Line.
Place the **Start** at location ①, **End** at location ② and enter the **Radius** of ③.
4. Dimension as shown using Dimension Style Class Style and Layer Dimension.
5. Edit the Title and Ex-XX by double clicking on the text. Do not erase and replace.
6. Save as **EX22G**
7. Plot using Page Setup **Class Model A**

Note: Positive Radius draws the small segment, negative Radius draws the large segment. To reverse the directions hold down the **Ctrl** key.



Your Name Here

Start, End, Radius

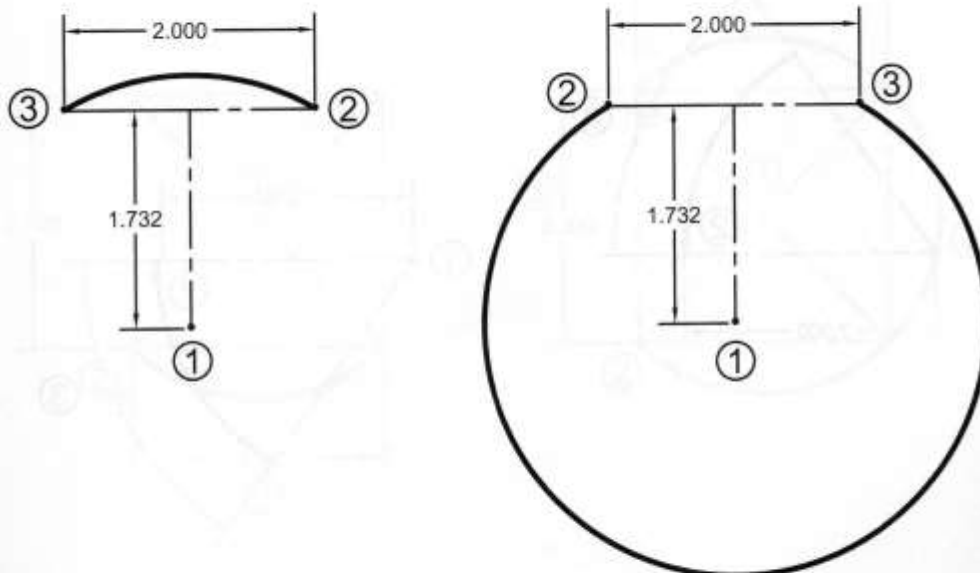
Ex-22G

EXERCISE 22H

INSTRUCTIONS:

1. Start a **New** file using **Border A-2015.dwt**
2. Draw the center lines first on layer Center line.
3. Draw the 2 Arcs using method **Center, Start, End** on Layer Object Line.
Place the **Center** at location ①, **Start** at location ② and **End** at location ③.
4. Dimension as shown using Dimension Style Class Style and Layer Dimension.
5. Edit the Title and Ex-XX by double clicking on the text. Do not erase and replace.
6. Save as **EX22H**
7. Plot using Page Setup **Class Model A**

Note: Draws the Arc Counter Clockwise only. To reverse the directions hold down the **Ctrl** key.



Your Name Here

Center, Start, End

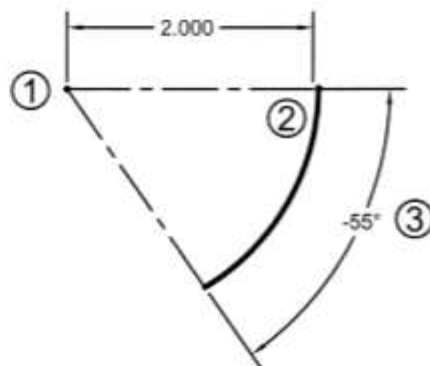
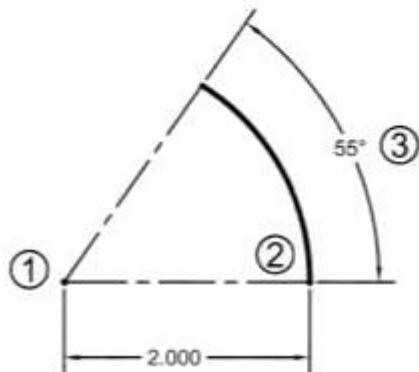
Ex-22H

EXERCISE 22I

INSTRUCTIONS:

1. Start a **New** file using **Border A-2015.dwt**
2. Draw the center lines first on layer **Center line**.
3. Draw the 2 Arcs using method **Center, Start, Angle** on Layer **Object Line**.
Place the **Center** at location ①, **Start** at location ② and enter **Angle** ③.
4. Dimension as shown using Dimension Style **Class Style** and Layer **Dimension**.
5. Edit the Title and Ex-XX by double clicking on the text. Do not erase and replace.
6. Save as **EX22I**
7. Plot using Page Setup **Class Model A**

Note: To reverse the arc directions hold down the **Ctrl** key.



Your Name Here

Center, Start, Angle

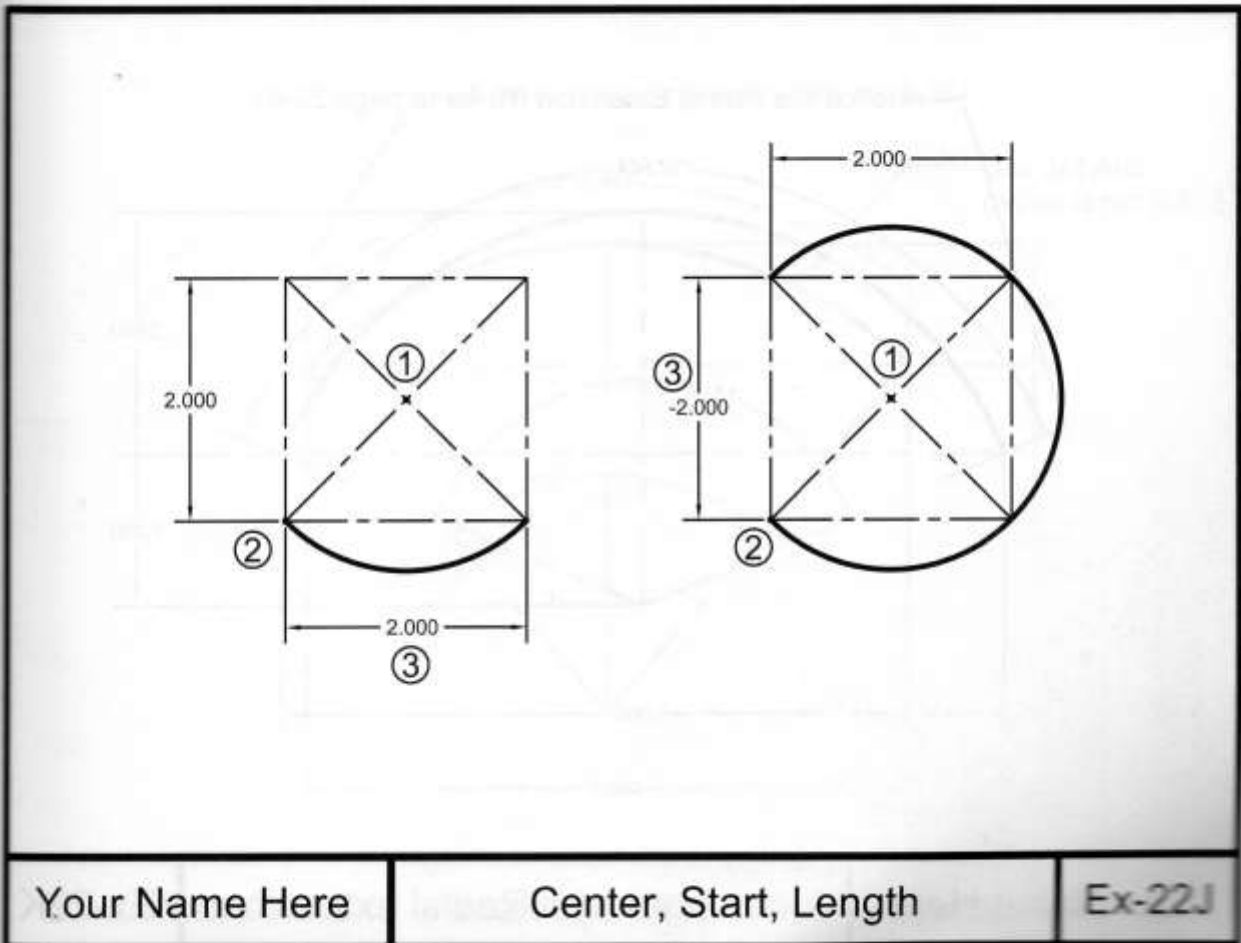
Ex-22I

EXERCISE 22J

INSTRUCTIONS:

1. Start a **New** file using **Border A-2015.dwt**
2. Draw the center lines first on layer Center line.
3. Draw the 2 Arcs using method **Center, Start, Length** on Layer Object Line.
Place the **Center** at location ①, **Start** at location ② and enter **Length** ③
4. Dimension as shown using Dimension Style Class Style and Layer Dimension.
5. Edit the Title and Ex-XX by double clicking on the text. Do not erase and replace.
6. Save as **EX22J**
7. Plot using Page Setup **Class Model A**

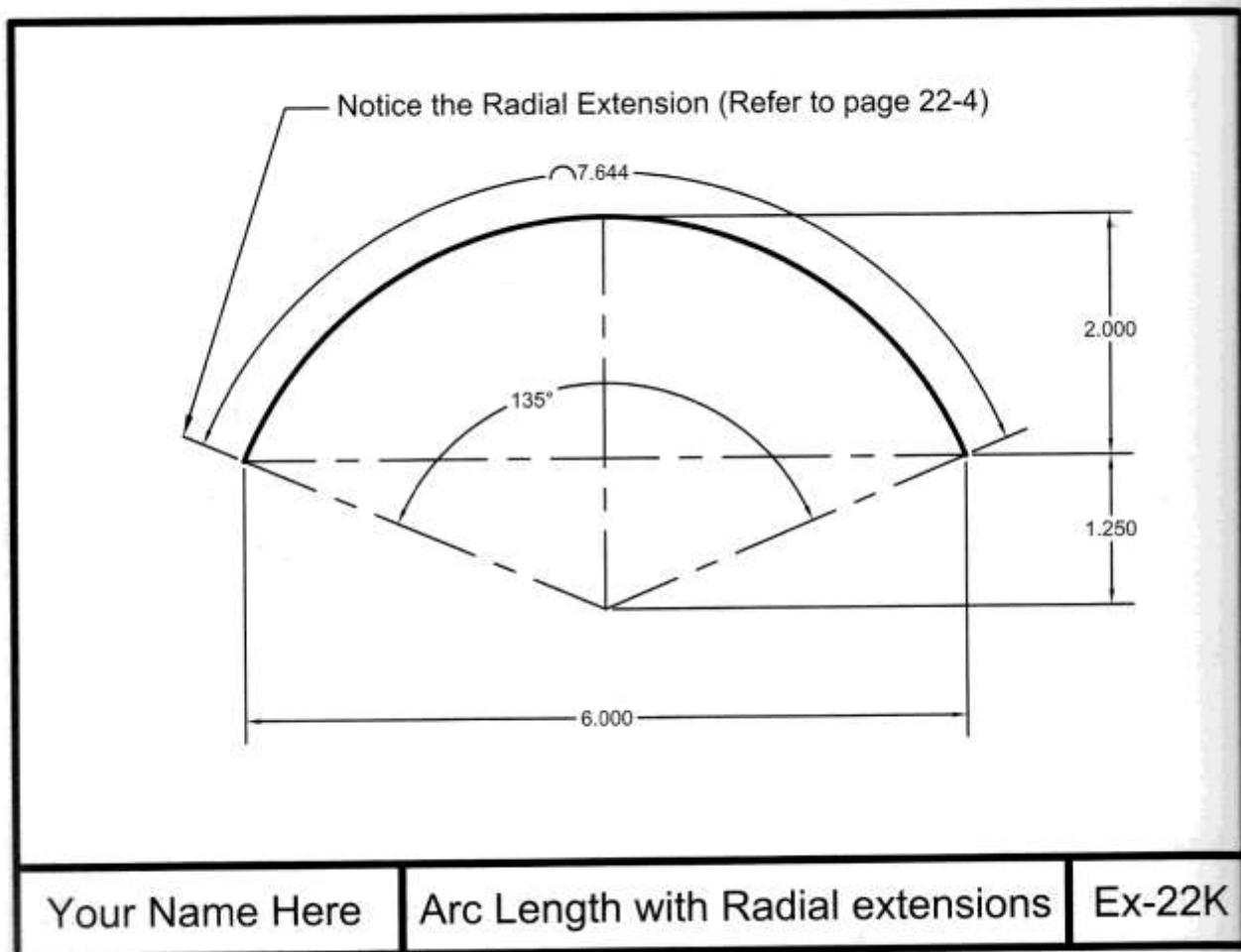
Note: Positive chord length draws the small segment counter-clockwise, negative chord length draws the large segment counter-clockwise. To reverse the directions hold down the **Ctrl** key.



EXERCISE 22K

INSTRUCTIONS:

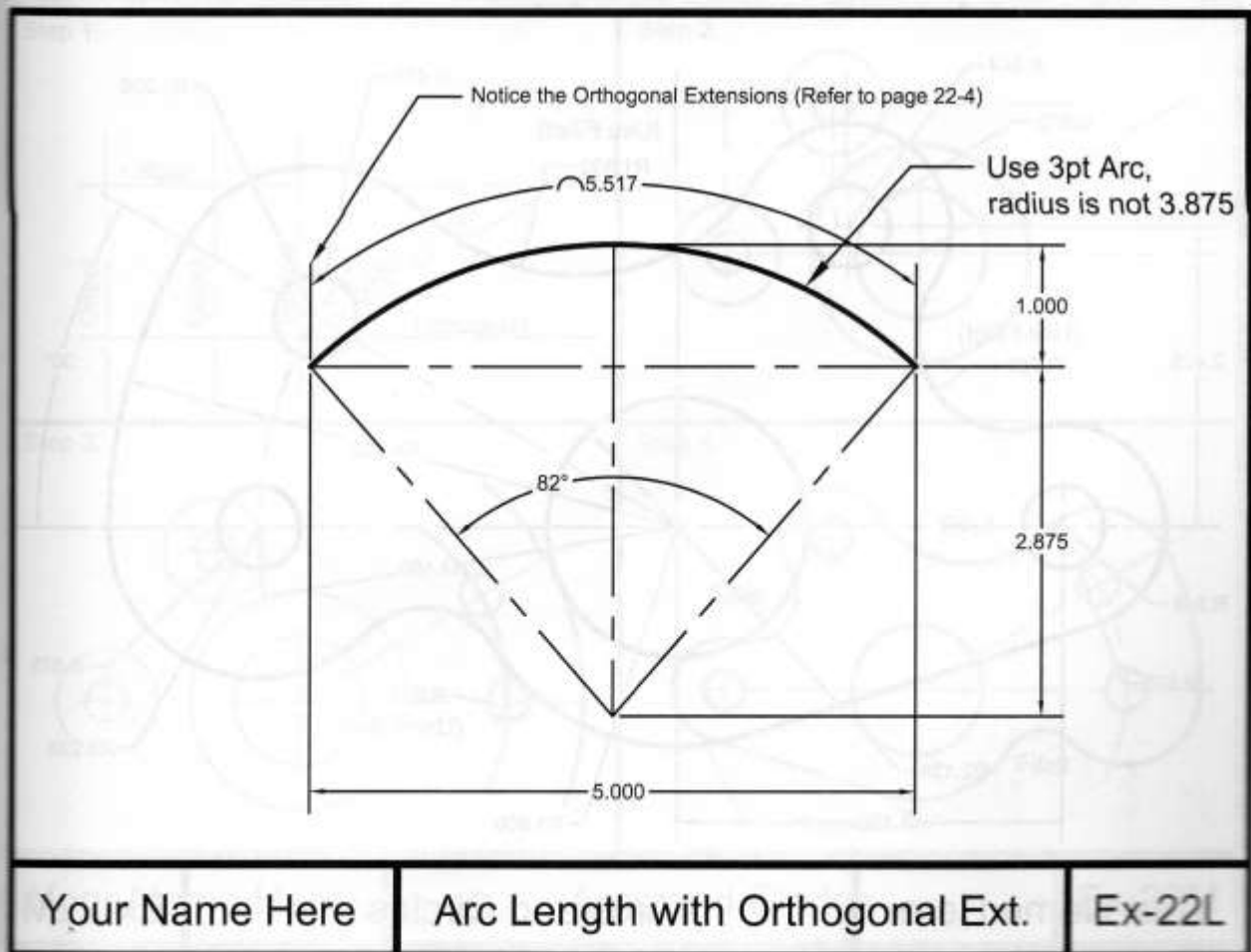
1. Start a **New** file using **Border A-2015.dwt**
2. Draw the Lines first on layer **Center line**.
3. Draw the Arc using Layer **Object Line**. Refer to the previous pages to select method.
4. Dimension as shown using Dimension Style **Class Style** and Layer **Dimension**.
5. Edit the Title and Ex-XX by double clicking on the text. Do not erase and replace.
6. Save as **EX22K**
7. Plot using Page Setup **Class Model A**



EXERCISE 22L

INSTRUCTIONS:

1. Start a **New** file using **Border A-2015.dwt**
2. Draw the Lines first on layer Center line.
3. Draw the Arc using Layer Object Line. Refer to the previous pages to select method.
4. Dimension as shown using Dimension Style **Class Style** and Layer Dimension.
5. Edit the Title and Ex-XX by double clicking on the text. Do not erase and replace.
6. Save as **EX22L**
7. Plot using Page Setup **Class Model A**

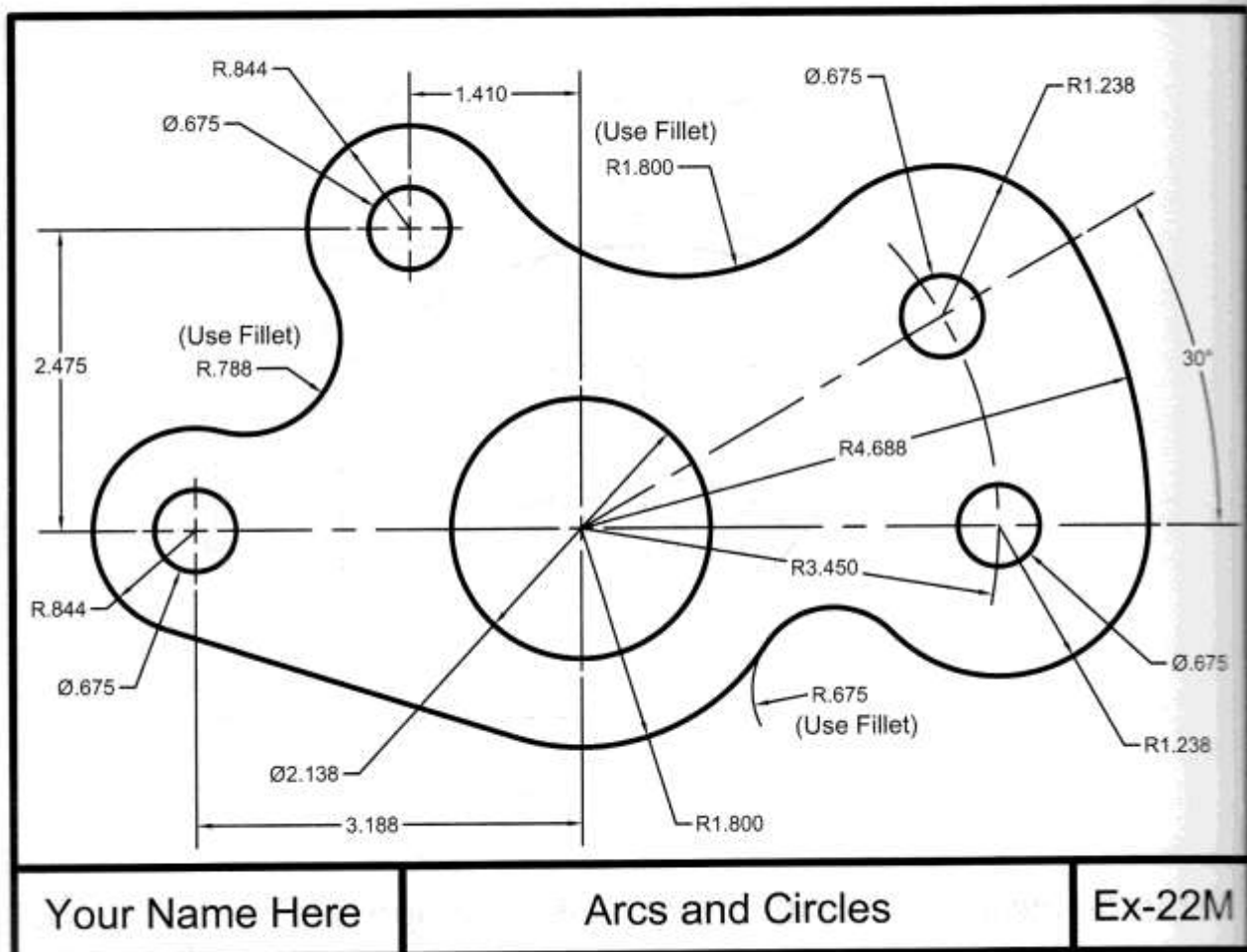


EXERCISE 22M

INSTRUCTIONS:

1. Start a **New** file using **Border A-2015.dwt**
2. Draw objects below using Circles, Arcs, Lines and Fillet on layer Object Line.
3. Dimension as shown using Dimension Style **Class Style** and Layer Dimension.
(Refer to page 18-3 and 18-5 for Radius and Diameter dimension settings)
4. Edit the Title and Ex-XX by double clicking on the text. Do not erase and replace.
5. Save as **EX22M**
6. Plot using Page Setup **Class Model A**

Refer to the next page for drawing assistance.



EX 22M Helper

INSTRUCTIONS:

Step 1.

- Draw the horizontal and vertical lines then offset to create intersections for circles.
- Draw the 30 degree line

Step 2.


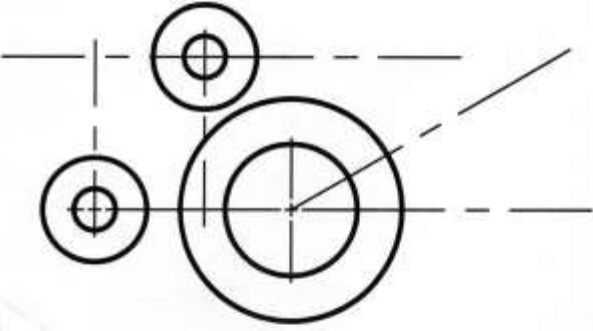
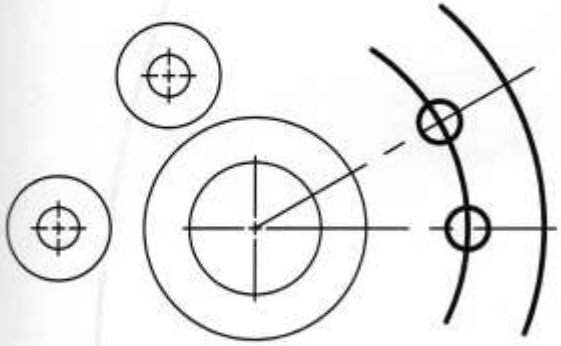
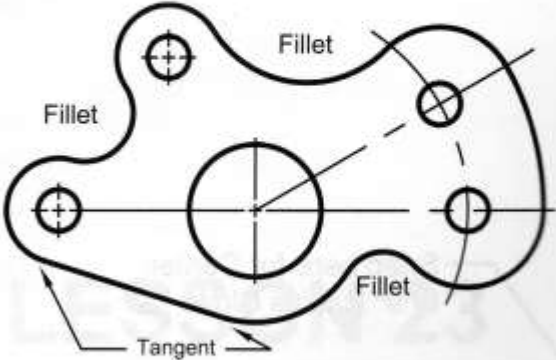
- Draw the Circles

Step 3.

- Draw the Arcs and draw the circles.

Step 4.

- Fillet, draw the tangent line and dimension.

<p>Step 1.</p> 	<p>Step 2.</p> 	
<p>Step 3.</p> 	<p>Step 4.</p> 	
<p>Your Name Here</p>	<p>Arcs and Circles</p>	<p>Ex-22M</p>

EXERCISE 22N

INSTRUCTIONS:

1. Start a **New** file using **Border A-2015.dwt**
2. Draw a 9" Radius Circle on Layer Object line, as shown below.
3. Trim so it does not extend beyond the the border lines.
4. Dimension as shown using Dimension Style **Class Style** and Layer Dimension.
(Refer to page 22-5)
5. Edit the Title and Ex-XX by double clicking on the text. Do not erase and replace.
6. Save as **EX22N**
7. Plot using Page Setup **Class Model A**

