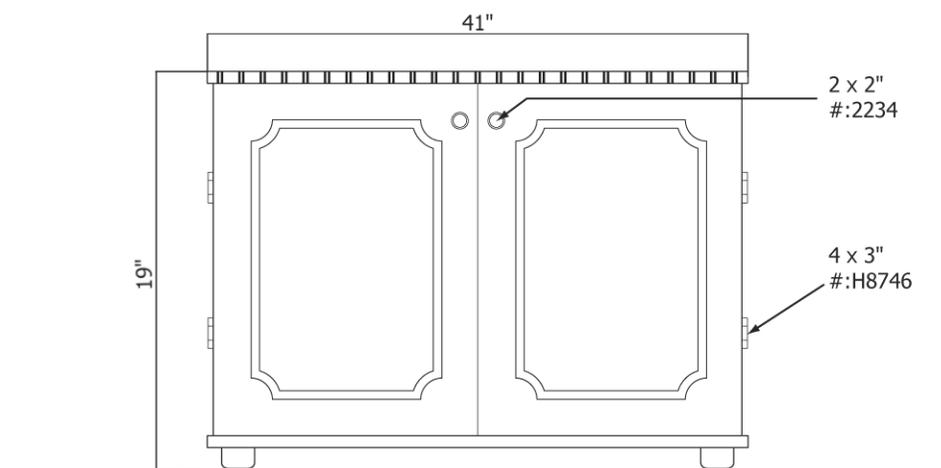


Working with dimension lines and callouts

Welcome to Corel DESIGNER®, a comprehensive vector-based drawing application for creating technical graphics.

In this tutorial, you will add the finishing touches to the drawing of a cabinet, use dimension lines to indicate the width and height of the cabinet, and provide callouts with information about the required hardware. The following illustration shows what your completed drawing will look like.



What you will learn

In this tutorial, you will learn to do the following:

- move objects with precision by using the **Transformations** docker
- contour objects
- copy and position objects with precision
- enhance corners of objects by scalloping
- draw and customize dimension lines
- add callouts

Opening the drawing

To begin this tutorial, you will open the drawing of a cabinet.

To open the drawing

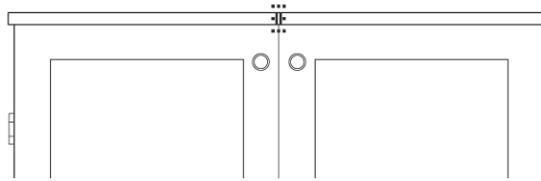
- 1 Click **File** ▶ **Open**.
- 2 Open the file **cabinet.des**, which you downloaded earlier.

Adding indentations to the top of the cabinet

Using the **Transformations** docker, you'll move copies of the two small lines in the middle of the top rectangle. This action will make the cabinet appear indented.

To move copies of the grouped lines

- 1 Using the **Pick** tool , click the grouped lines in the middle of the top rectangle.

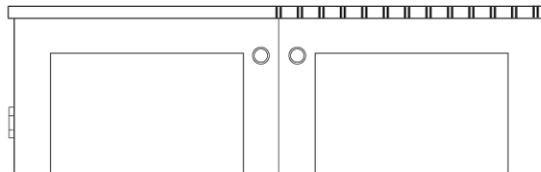


- 2 Click **Object** ▶ **Transformations** ▶ **Position**.

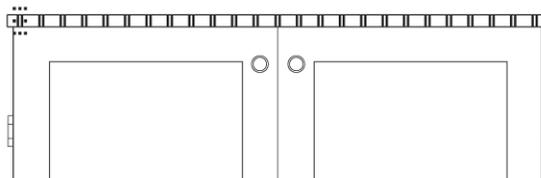
The **Transformations** docker appears with the **Position** page displayed. Next, you'll move 12 copies of the grouped lines by 0.25 inch to fill the right half of the rectangle.

- 3 On the **Position** page, type **0.25** in the first box, which lets you move objects horizontally.
- 4 In the **Copies** box, type **12**.
- 5 Click **Apply**.

The top rectangle should look like this:



- 6 To fill the left side of the top with grouped lines, select the middle lines again.
- 7 On the **Position** page of the **Transformations** docker, type **-0.25** in the first box. Type a hyphen to represent the minus sign. The negative value will move copies of the selected lines to the left.
- 8 Make sure that the **Copies** box still displays **12**, and click **Apply**.



Finishing the cabinet doors

Next, you'll apply a contour effect to add a decorative panel to the left door of the cabinet. Then, you'll scallop the corners of the decorative element. Scalloping rounds and inverts the corner to create a notch.

When you are finished with the left door, you will copy the decorative panel to the right door and use gravity snapping to position the decorative panel with precision. Gravity snapping is the attraction of the pointer to a snap point. To learn more about gravity snapping, see the tutorial "Drawing with precision."

To add a contour effect to the inside rectangle

1 Using the **Pick** tool , select the inside rectangle of the left door.

2 Click **Effects** ▶ **Contour**.

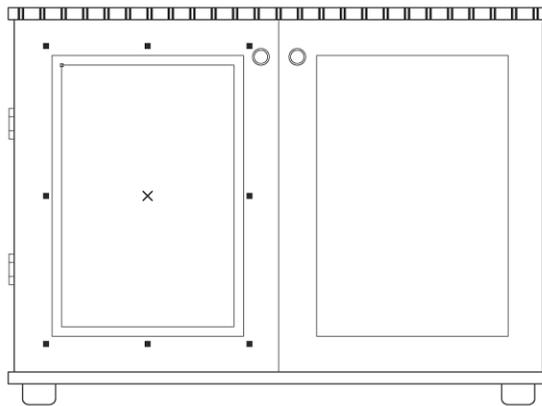
3 In the **Contour** docker, click the **Inside contour** button .

By clicking the **Inside contour** button, you can apply a contour effect to the inside of the rectangle.

4 In the **Contour offset** box, type **0.1**.

5 In the **Contour steps** box, type **1** to add a single contour line.

6 Click **Apply**.



To scallop the contoured rectangle

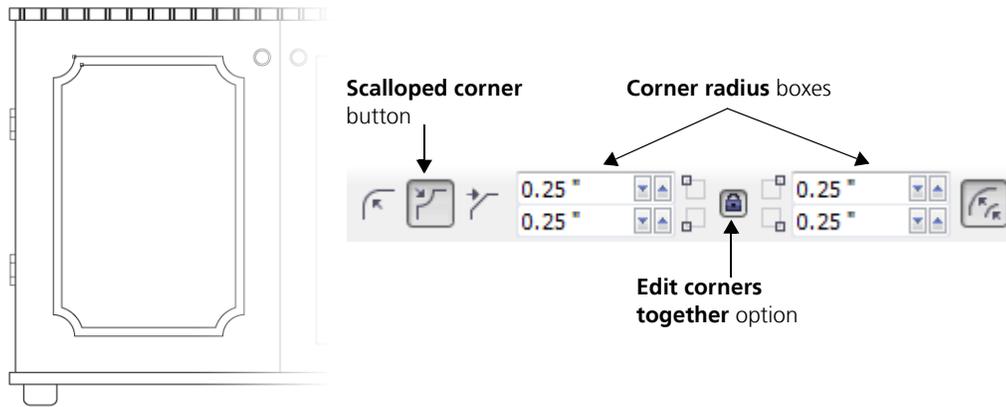
1 Using the **Pick** tool , click the outside edge of the contoured rectangle.

2 Click the **Scalloped corner** button  on the property bar.

3 In one **Corner radius** box, type **0.25**.

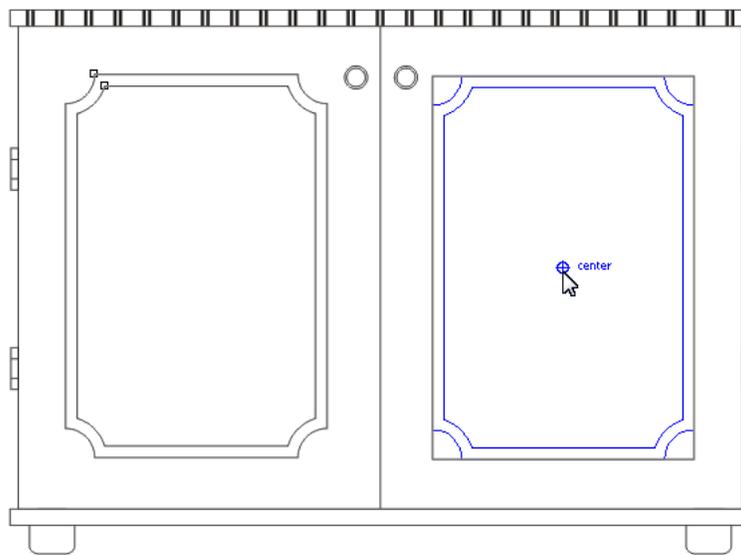
4 Press **Enter**.

When the **Edit corners together** option is enabled, the corner radius value that you type in one corner radius box is automatically applied to all corners of the rectangle.



To copy the decorative panel to the right door

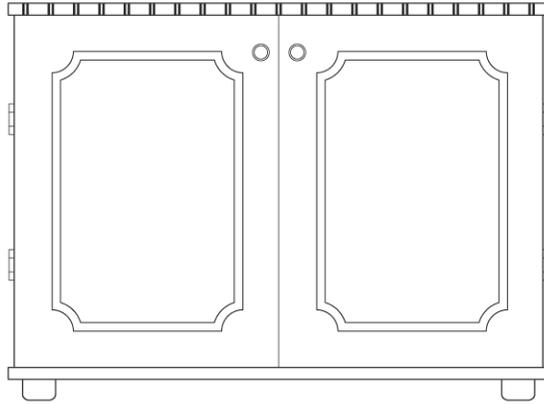
- 1 Using the **Pick** tool , right-click the decorative element, move it to the center of the inside rectangle of the right door, and release the mouse button when the center snap point is displayed. On the menu that appears, click **Copy here**.



You have now copied the decorative panel on top of the inside rectangle of the right door.

- 2 Using the **Pick** tool , click any of the corners of the inside rectangle that show behind the decorative panel, and press **Delete** to delete the rectangle.

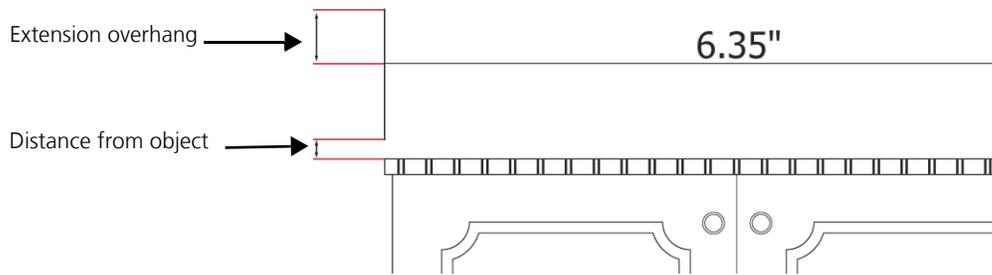
Both cabinet doors now have the same decorative panel. With the help of gravity snapping, you positioned the copy of the decorative panel in the center of the right door.



Adding dimension lines

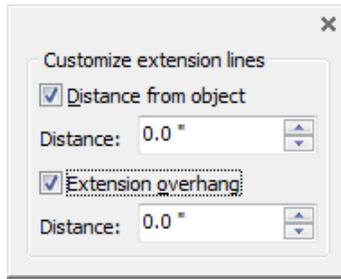
Next, you'll add dimension lines to your drawing. Using the **Parallel dimension** tool, you'll indicate the height and width of the cabinet. Before drawing the dimension lines, you must change the default settings of the **Parallel dimension** tool. By default, dimension lines are dynamic, and they change as you resize the object that is measured. Because this drawing is not in scale, however, you must turn off dynamic dimensioning.

You will also customize the extension lines that support the dimension lines by specifying both the distance from the object and the length of the extension overhang.



To change the default settings of the Parallel Dimension tool

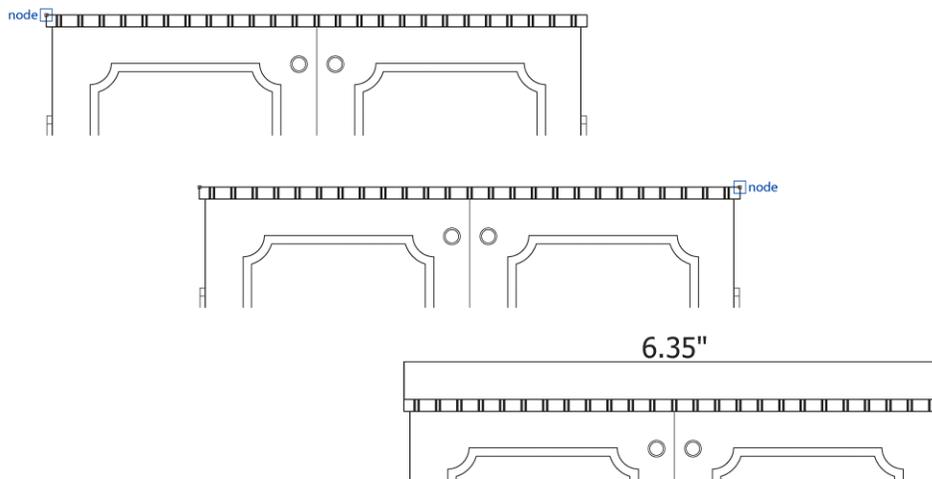
- 1 In the toolbox, click the **Dimension tools** button, and then click the **Parallel dimension** tool .
- 2 On the property bar, click the **Dynamic dimensioning** button  to disable dynamic dimensioning.
- 3 Click the **Extension line options** button .
- 4 Enable the **Distance from object** check box, and type **0** in the **Distance** box.
- 5 Enable the **Extension overhang** check box, and type **0** in the **Distance** box.



6 Click the **Keep settings** button  on the property bar.

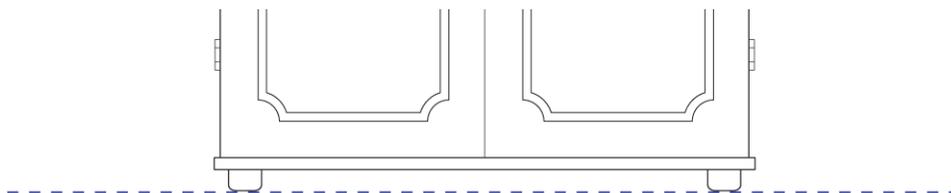
To add dimension lines for the width and height of the cabinet

1 To add a dimension line for the width, hover over the upper-left corner of the cabinet, click without releasing when a node snap point appears, and then drag to the node snap point of the upper-right corner. Release when the node snap point appears, and move the pointer upward to determine the length of the extension line. Move the pointer to the left, and click to position the dimension text.



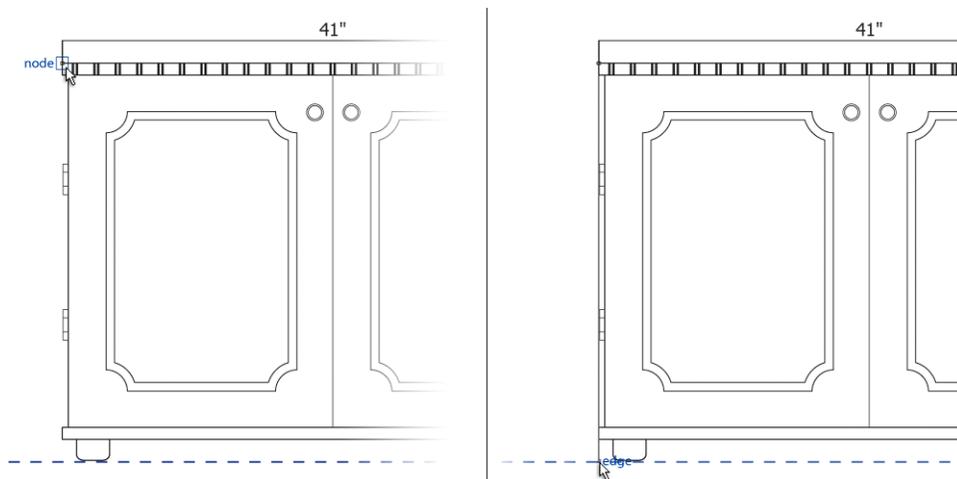
2 Note that the drawing is not accurately scaled, so the dimension text does not show the true dimensions. To modify the dimension text, click the **Text** tool , double-click the dimension text, and type **41"**. Type double quotation marks to represent the inch mark.

3 From the horizontal ruler, drag a guideline to the base of the legs, as shown in the following illustration. You will snap to this guideline when you draw the dimension line for the height of the cabinet.



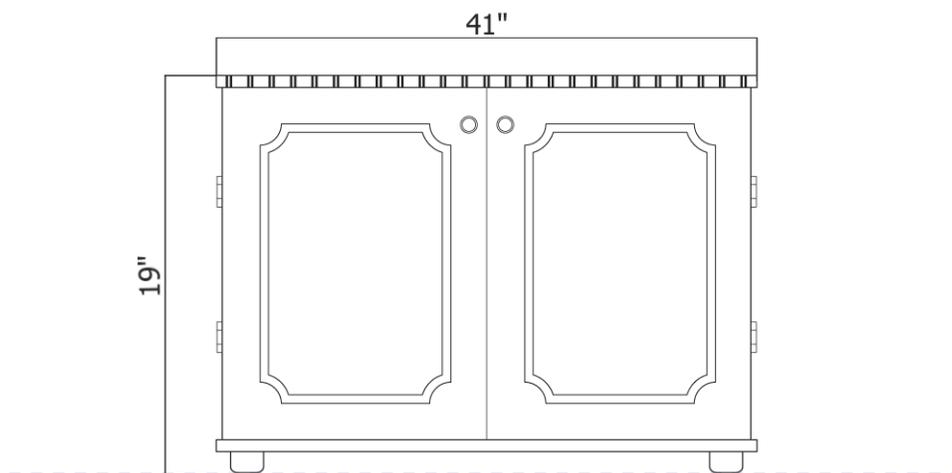
4 To add a dimension line for the height, click the **Parallel dimension** tool , hover over the upper-left corner of the cabinet until a node snap point is displayed, and click without releasing the mouse button. Then, drag to the bottom of the cabinet until an edge snap point appears on the guideline, and release the mouse button. Move the pointer to

the left to determine the length of the extension line. Next, move the pointer upward, and click to position the dimension text.



- 5 To change the dimension text for the height, double-click the dimension text by using the **Text** tool , and type **19"**.

The drawing should look like this:



Adding the callouts

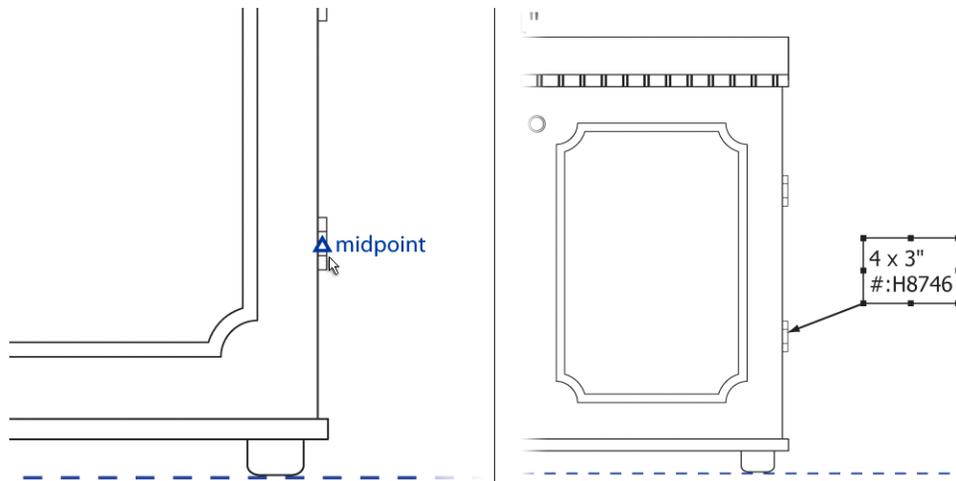
Next, you'll add callouts for the hinges and knobs. You can use dynamic guides to align the two callout labels.

To add a callout for one of the hinges

- 1 In the toolbox, click the **Callout tools** button, and click the **1-leg callout** tool .

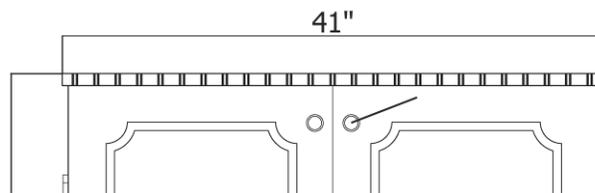
If you want the callout and dimension text to have the same font, click the **Character formatting** button  on the property bar. From the **Font list** list box in the **Character** section of **Text properties** docker, choose the font that matches the dimension text. The font **Arial** is used for dimension text in the illustrations of this tutorial.

- On the property bar, choose the first rectangular option from the **Callout shape** list box, and click the **Keep settings** button .
- Point to the lower-right hinge. When the midpoint snap point is displayed along the edge of the hinge, drag to where you want the callout text to appear.
If the midpoint snap point is not displaying, click **Tools ▶ Gravity**, and in the **Modes** box, enable the **Midpoint** check box.
check boxes you want.
- Type **4 X 3 "**, and press **Enter**. Type double quotation marks to represent the inch mark.
- Type **#: H8746**, which indicates the part number of the hinges.

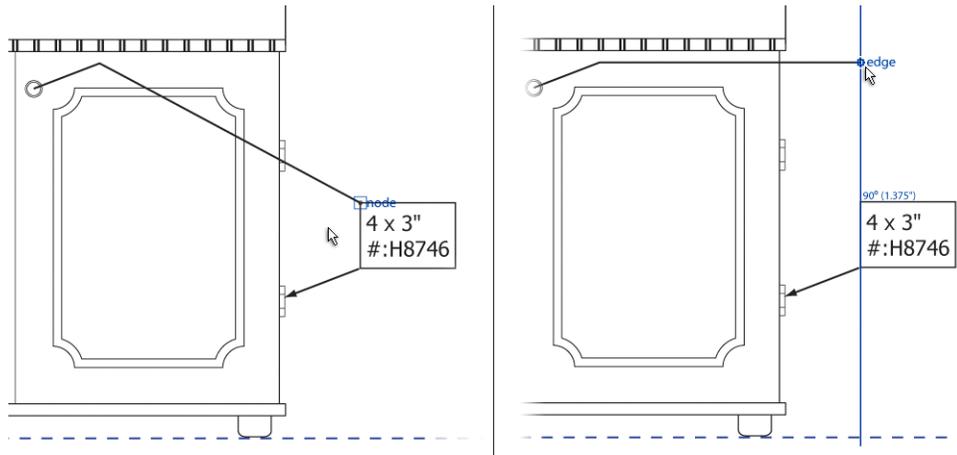


To add a callout for the right knob

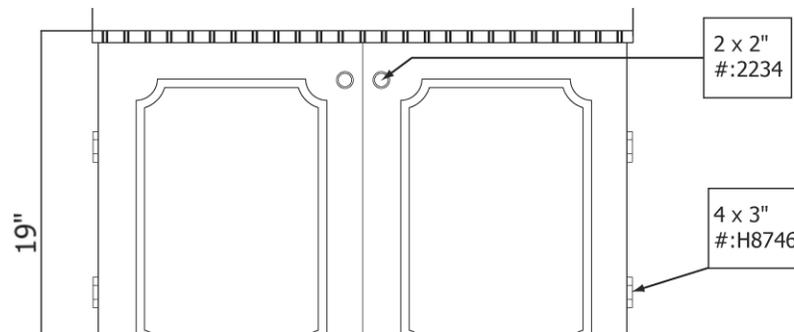
- In the toolbox, click the **Callout tools** button, and click the **2-leg callout** tool .
- Point to the center of the right knob, and when the center snap point appears, click to add the arrow of the callout. Do not release the mouse button.
If the center snap point is not displaying, click **Tools ▶ Gravity**, and in the **Modes** box, enable the **Center** check box.
- Drag upward and to the right, and release the mouse button before reaching the top of the cabinet. The first segment of the callout ends at this point.



- Move the pointer horizontally to the right, hold down **Ctrl**, and click when the pointer is above the left edge of the first callout.
You can also align the callout labels with precision by using dynamic guides (**Alt + Shift + D**). First, click in the center of the right knob, and drag to where you want to end the first segment of the callout. Next, move the pointer to the upper-left corner of the first callout, and move it back to the endpoint of the first segment. Then, move the pointer horizontally to the right, hold down **Ctrl**, and click when a dynamic guide is displayed from the left edge of the first callout.



- 5 Type **2 X 2"**, and press **Enter**. Type double quotation marks to represent the inch mark.
- 6 Type **#: 2234**, which indicates the part number of the hinges.

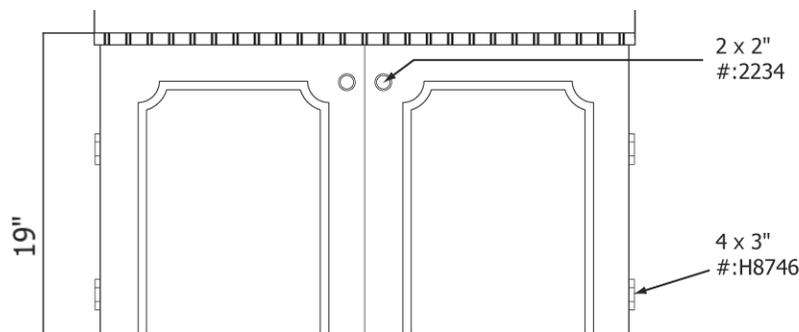


Applying the same settings to similar objects

You can apply the same settings to all objects of a specific object type in a drawing. For this project, you'll use a keyboard shortcut to select both callouts in the drawing, and then you'll change the callout style.

To apply the same settings to the callouts in the drawing

- 1 In the toolbox, click the **1-leg callout** tool .
- 2 Press **Ctrl + A** to select both callouts.
- 3 On the property bar, choose a different callout style from the **Callout shape** list box.



The project is now complete.

From here...

You can explore Corel DESIGNER on your own, or you can learn more by completing other tutorials.

For more information about the topics and tools discussed in this tutorial, refer to the Help. To access Corel DESIGNER Help, click **Help** ► **Product help**.