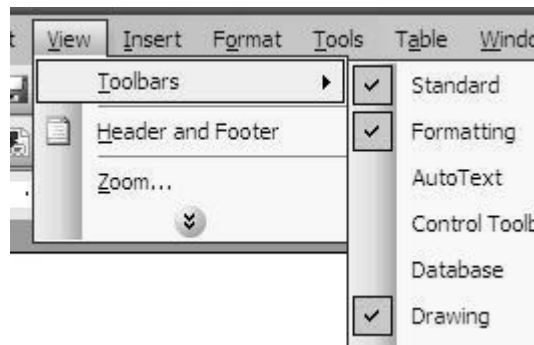


Extension 7.1 - Use Microsoft Word to Draw Points

Today we will be using Microsoft Word to draw and label points. You will also learn how to group objects. These skills will be the base skills for the advanced lessons to come.

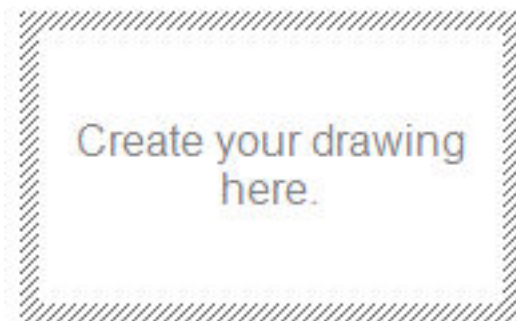
1. Open Microsoft Word
2. We need to make sure that all of us are looking at the same toolbars. You will want to use the "**Drawing**" toolbar today, so let's make sure you have it turned on.
 - Click "**View**" on the menu bar.
 - Choose "**Toolbars**"
 - Check to make sure "**Drawing**" is selected as shown on the right.



3. In most cases, the drawing toolbar will be docked at the bottom of your window. Look at the Word window and find out where this toolbar is.

4. We will start by creating a point.
 - Look on the "**Drawing toolbar**" and find the Oval.

5. When you click the "**Oval**", the Drawing Canvas will appear. The drawing canvas is an area where you can draw multiple shapes. Then you can move them or delete them as a unit.

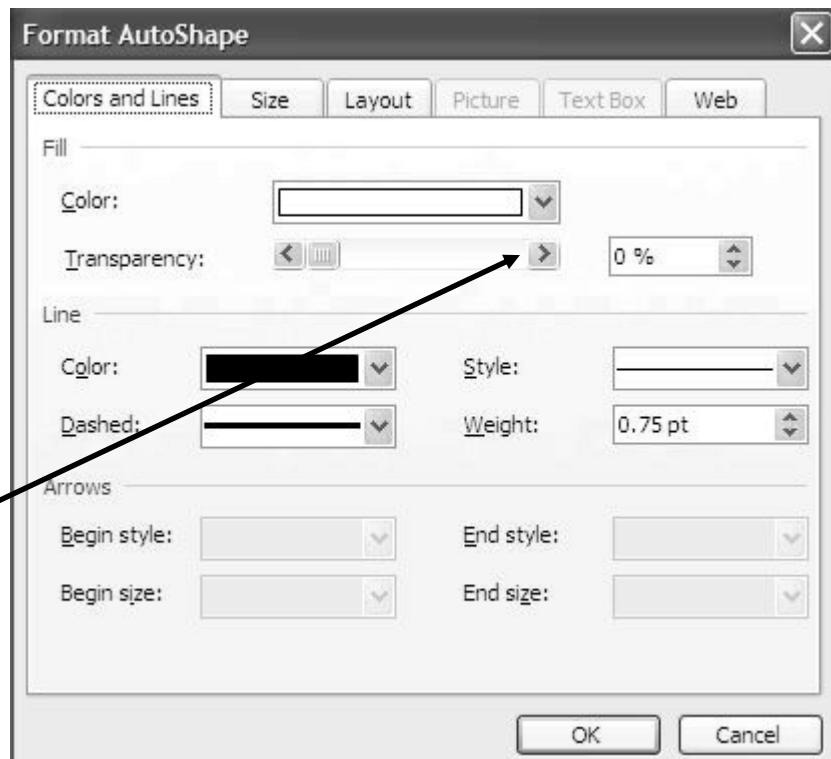


- Click in the middle of the Drawing Canvas to create a circle.

6. Now we will turn the circle into a point by formatting it.

- Double Click the center of the circle to open the "**Format AutoShape**" Wizard.

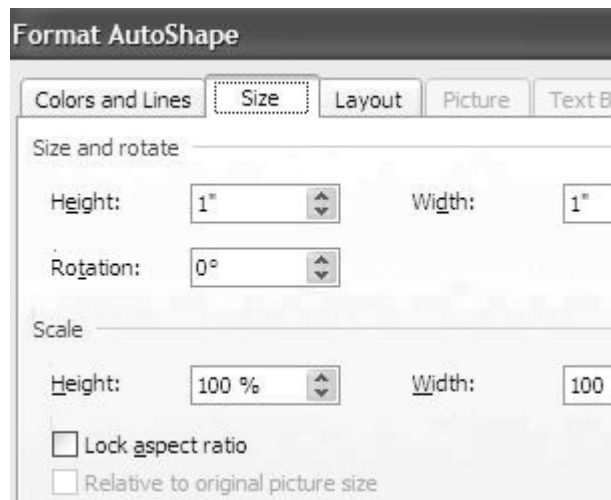
7. Points are generally solid black circles. Use the drop down arrow beside **Fill Color** and change the color to black as shown on the right.



Extension 7.1 - Use Microsoft Word to Draw Points

8. Now we need to make the point small. We will need to change the size of our circle.

- Click the **size** tab on the Format AutoShape Wizard to begin working with size.



9. I have found that [**Height = .1"**] and [**Width = .1"**] makes a perfect point.

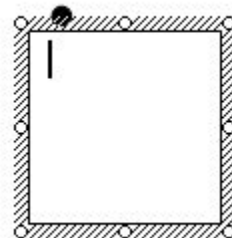
- Click in the text box next to **Height** and change the value to ".1"
- Click in the text box next to **Width** and change the value to ".1"
- Click **OK** to apply the format changes to your circle.

10. Now we will label the point. You will need to use a text box to name the point. Look at the Drawing Toolbar and find the "**Text Box**" as shown below.



11. Select the **Text Box** button and click in the Drawing Canvas to create a text box.

- Don't worry if your point disappears!

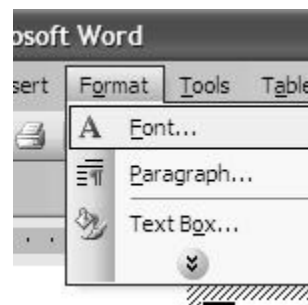


12. We will format the text box in a few steps - but first we need to go ahead and put the text in the box.

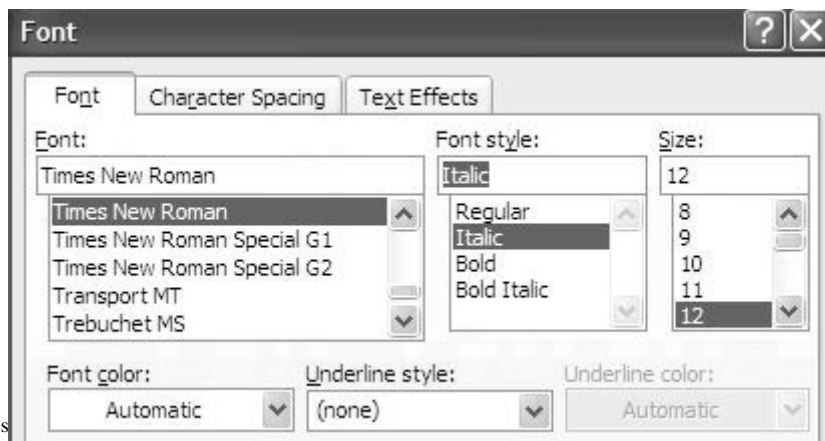
- Press the shift key and type a capital A in the text box.

13. Point labels are generally capital letters **and italicized**. We need to format the font of our "A" so that it is in italics.

- Double Click the A to select the text.
- Select **format** from the menu bar.
- Select **font**
- The Font Formatting wizard should appear.



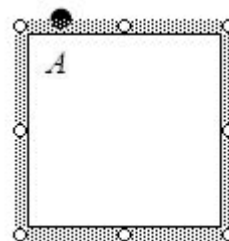
14. Change the "**Font Style**" to "Italic" or "Bold Italic" and choose "OK" to apply the changes to your font.



Extension 7.1 - Use Microsoft Word to Draw Points

15. We need to make the text box "invisible"

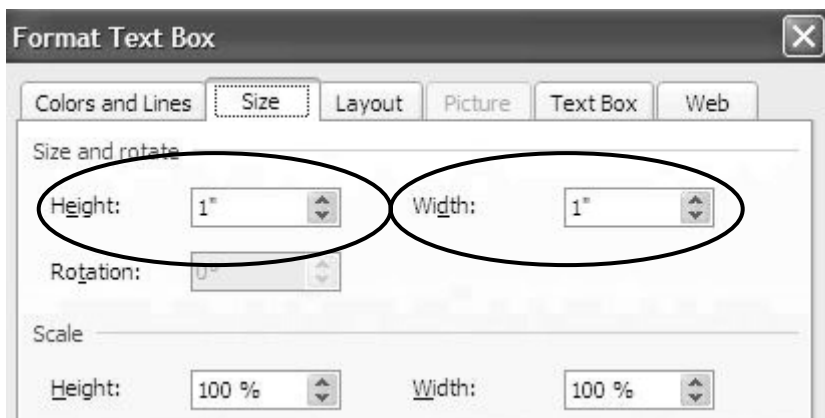
- Right now it has a white background (fill) and a line around the outside.
- It may even be hiding the point that you made earlier!



16. Click anywhere on the text box line to cause the text box to be "selected" as shown in the picture.

17. There are two easy ways to open the "Format Text Box" wizard.

- You can double click on the text box's line
- or you can choose **Format** and "Text Box" from the menu bar.



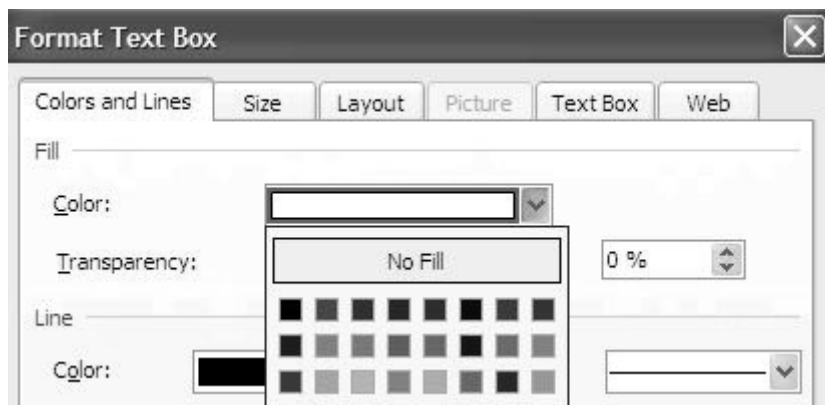
18. My wizard opened to the size tab. Make sure your wizard is showing the size options as shown in the picture.

- Change the both the "**Height**" and "**Width**" to .3".
- Then select the "**Colors and Lines**" tab to begin changing the fill and line options.

19. Change the "**Fill Color**" to "**No Fill**"

Change the "**Line Color**" to "**No Line**"

Click OK to apply the changes to your text box.



20. You can move the text box

anywhere you want. Hover your cursor over the edge of the box until it turns into the 4-way arrow.

- Click the box and drag it around the page.
- I would like you to drop the box on the point as shown in the picture below.



21. You have created and labeled a point!

Next we will "**group**" the objects so that the point and its label are one object instead of 2.

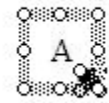
Extension 7.1 - Use Microsoft Word to Draw Points

22. This move calls for **careful attention**. You will need to notice the difference between a normal cursor arrow (1:00) and a reversed arrow (11:00). In some versions of Word, you will **not** get the reversed arrow - you will be looking for the four way selecting arrow.

- Hover your mouse around the left side of the "A" until you have seen both types of selecting arrows.
- Click a few times to see the results of each arrow.
- You should discover that the 11:00 arrow doesn't do much but that the 1:00 arrow will cause the text box to be selected.
- Make sure to click away to deselect the objects before moving to the next step.
- Practice selecting and deselecting the text box until you are a master.

23. To select both the point and the text box...

- Click the "point" to select it.
- Hold down the **shift key** on your keyboard.
- Hover your cursor to the left side of the A until the 1:00 arrow lets you know that you can select the text box.
- While holding the **shift key** click to select the text box.
- You should have both objects selected as shown in the picture on the right.

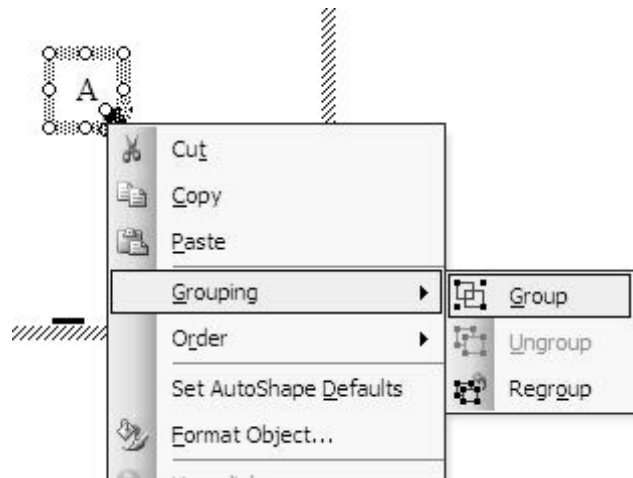


24. Now hover over the selected group until your cursor becomes a 4-way arrow.

- **Right Click** the object to open the submenu shown on the right.
- Select **Grouping** and Choose **Grouped**.

25. It's done! You have created a point and labeled it.

- You can drag the grouped object around and it will stay the same.
- Drag your point outside of the drawing canvas and drop it.
- Right click your point and copy it
- Paste a new point and then move it away so that you can see both.
- Highlight one of the "A's" and change it to B.
- Add some more points.
- Repeat this tutorial until you are a master.

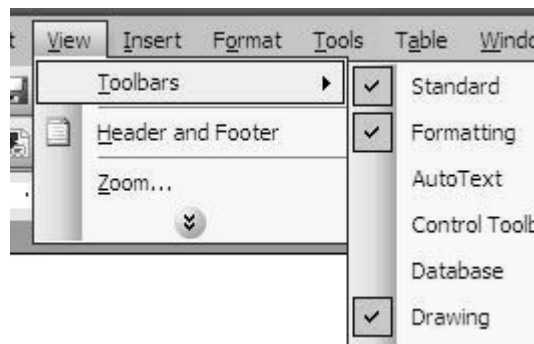


Extension 7.4 - Use Microsoft Word to Draw Lines

Today we will be using Microsoft Word to draw and label lines. You will also learn advanced positioning and review grouping objects. These skills assume that you are a master of 7.1 - Draw and Label Points. If you have not completed that activity, please complete it before continuing.

1. Open Microsoft Word
2. We need to make sure that all of us are looking at the same toolbars. You will want to use the "**Drawing**" toolbar today, so let's make sure you have it turned on.

- Click "**View**" on the menu bar.
- Choose "**Toolbars**"
- Check to make sure "**Drawing**" is selected as shown on the right.



3. In most cases, the drawing toolbar will be docked at the bottom of your window. Look at the Word window and find out where this toolbar is.



4. Click the lines icon on the "**Drawing Toolbar**"

- The "**Drawing Canvas**" will appear and your cursor will turn into a cross.
- Word is ready for you to draw the line.

5. To draw a straight line...

- Click somewhere in the drawing canvas and drag horizontally across
- Hold down the **shift key** on the keyboard to make sure the line is straight.

reate your drawing her

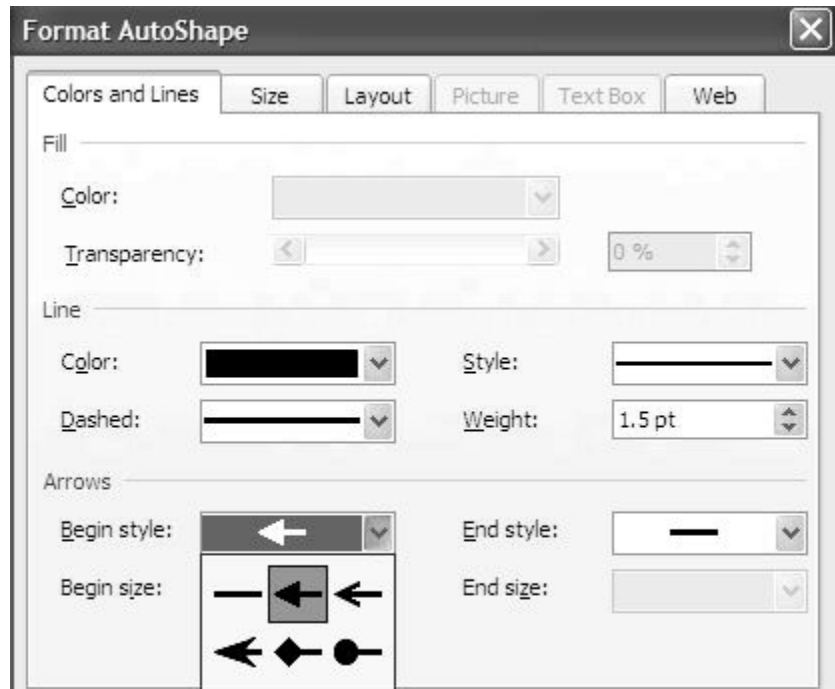
6. It will be important that your line matches mine, so we will need to format and position our lines.

- To open the format AutoShape Wizard you can use any method you like.
 - Double Click the line **or**...
 - Right Click the line **or**...
 - select "**Format**" from the menu bar and choose "**AutoShape**"

Extension 7.4 - Use Microsoft Word to Draw Lines

7. We will change the Line **weight**, Arrow **begin style** and **end style** from the colors and lines tab.

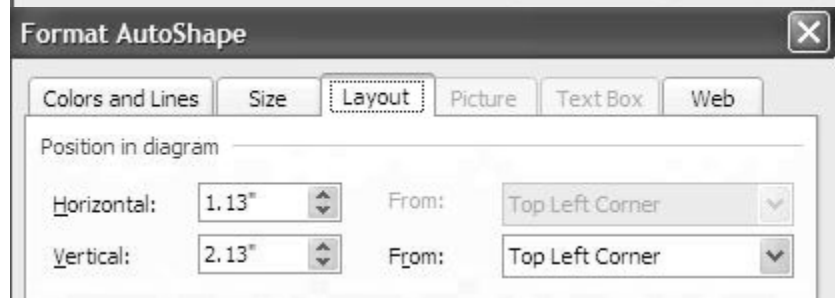
- Start by changing the **weight** to 1.5.
- Use the drop down arrow to change the **Arrow Begin** style to the first arrow as shown in the picture.
- Use the drop down arrow to change the **Arrow End** style to the same style as you chose above.
- Do **NOT** click OK - we still need to work on the Layout



8. Select the "Size" tab and change the **Width** to 4".

9. Select the "Layout" tab.

- Change the **horizontal** to 1"
- Change the **vertical** to 2"
- Choose **OK** to apply the format changes to your line.



10. Now comes the tricky part. We want to put some points on this line.

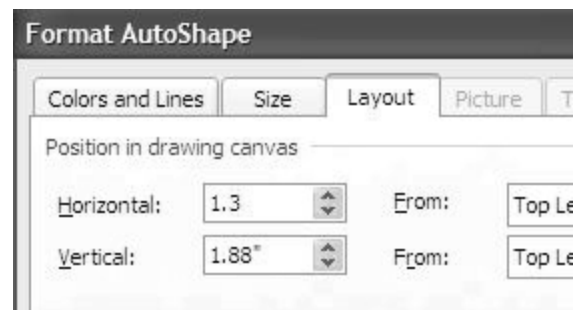
- Use the "oval" tool to create a point.
- Change the **Fill Color** to black.
- Click the Size tab.
 - Change the **Height** to .1 and the **Width** to .1
- Press **OK** to apply the formatting.



11. Drag the point as close to the line as you can.

12. You can carefully move the point and place it perfectly on the line. The secret is careful increments.

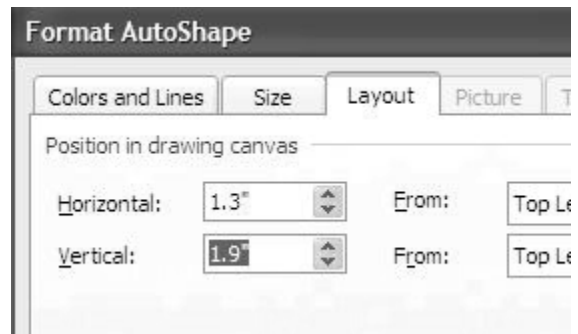
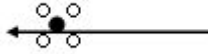
1. Start the **Format AutoShape** wizard and switch to the **Layout** tab.
2. The **Horizontal** doesn't matter much for this line so just switch it to 1.3 so we will have the same.



Extension 7.4 - Use Microsoft Word to Draw Lines

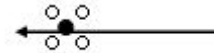
13. We need to move the point **down** a little bit.

- We will start by changing the **Vertical** to 1.9
- Press OK and see if you are on the line!



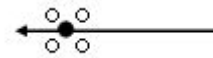
14. We need to get a little farther down. Here is where the careful increments matters. You must be patient and move slowly. The actual answer is going to be 1.95, but .5 is a large increment!

- Open the Format AutoShape Wizard and change the **Vertical** to 1.92.
- Press OK and see if you are on the line!



15. We are getting closer but still need to get a little farther down.

- Open the Format AutoShape Wizard and change the **Vertical** to 1.94.
- Press OK and see if you are on the line!



16. That almost looks perfect. We need to move down just a little more.

- Open the Format AutoShape Wizard and change the **Vertical** to 1.95.
- Press OK and you will be on the line!



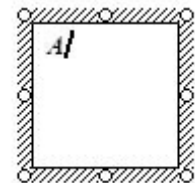
17. We know that our line is **Vertical** 1.95!

- Create a new point and set the **Horizontal** to 4.5 and the **Vertical** to 1.95.



18. We need to label the points and group the objects. We will start by labeling the points as **A** and **B**.

- Click the **Text Box** icon and create a text box.
- Type A
- Format Font - "Bold Italic"

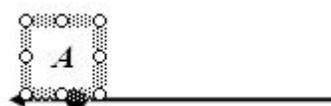


19. We need to format the text box so that it is invisible.

- Right Click the text box and choose **Format Text Box**
- On the Colors and Lines tab,
 - change the **Fill Color** to No Fill
 - change the **Line Color** to No Line.
- On the Size tab
 - change the **Height** to .3
 - change the **Width** to .3
- Click OK to apply the formatting changes.



20. Move the text box to label the first point.



Extension 7.4 - Use Microsoft Word to Draw Lines

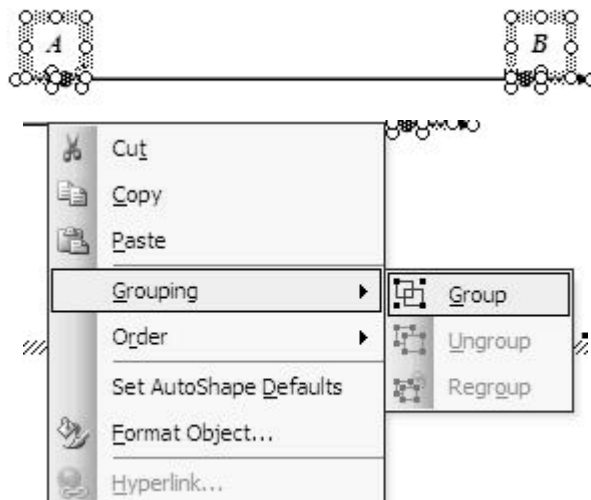
21. To make the second label ...

- Copy the text box.
- Paste the text box.
- Move the text box to label the other point.
- Change the *A* to *B*.



22. Remember to group objects, you need to hold down the shift key.

- Hold the shift key and click both text boxes, both points and the line!
- Right click the line
- Choose **Grouping**
- Choose **Grouped**



23. Congratulations, you have a line!

- Move it around a little and see that it is a single object and looks good.

24. Now you can practice by creating rays and line segments.

- Do **not** use the arrow style tools as a shortcut since the point that they make will not be congruent with the additional points that you will need to add to the rays.

25. Finally, put your name on your paper!

- Click **View** on the menu bar.
- Choose **Header and Footer**
- Write and Format your name!

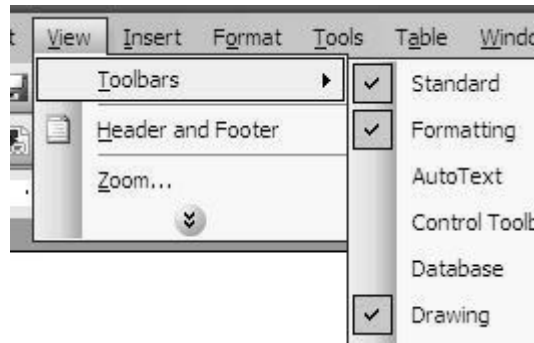
8.4 - Use Microsoft Word to Draw Similar Shapes

Today we will be using Microsoft Word to draw similar shapes. You will learn about resizing with aspect ratio and rotation.

1. Open Microsoft Word

2. We need to make sure that all of us are looking at the same toolbars. You will want to use the "**Drawing**" toolbar today, so let's make sure you have it turned on.

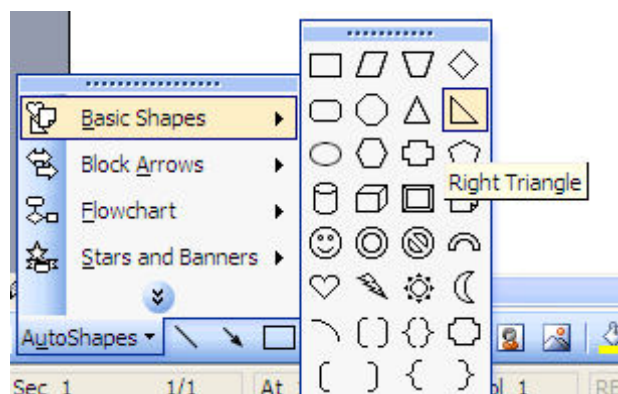
- Click "**View**" on the menu bar.
- Choose "**Toolbars**"
- Check to make sure "**Drawing**" is selected as shown on the right.



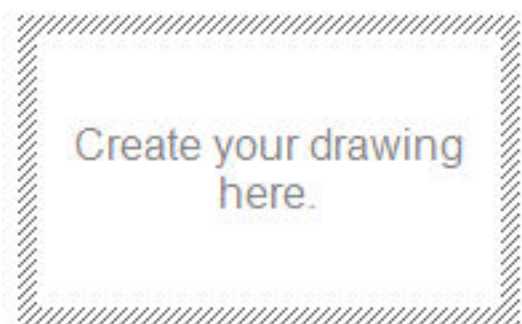
3. In most cases, the drawing toolbar will be docked at the bottom of your window. Look at the Word window and find out where this toolbar is.

4. We will work with the right triangle in this lesson. Later you can apply this skill to any shape you choose or make!

- Select the "**AutoShapes**" button on the drawing toolbar.
- Slide up to "**Basic Shapes**"
- Select the right triangle as shown.



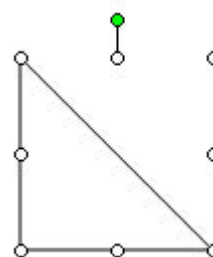
5. When you click the "**Right Triangle**", the Drawing Canvas will appear. The drawing canvas is an area where you can draw multiple shapes. Then you can move them or delete them as a unit.



6. Click the middle of the drawing canvas to create a right triangle.

7. While we have the triangle selected (note the little circles), we will format it so that it will look better.

- Select "**Format**" from the menu bar.
- Slide to and click "**Auto Shape**"
- The "**Format Auto Shape**" wizard will appear.



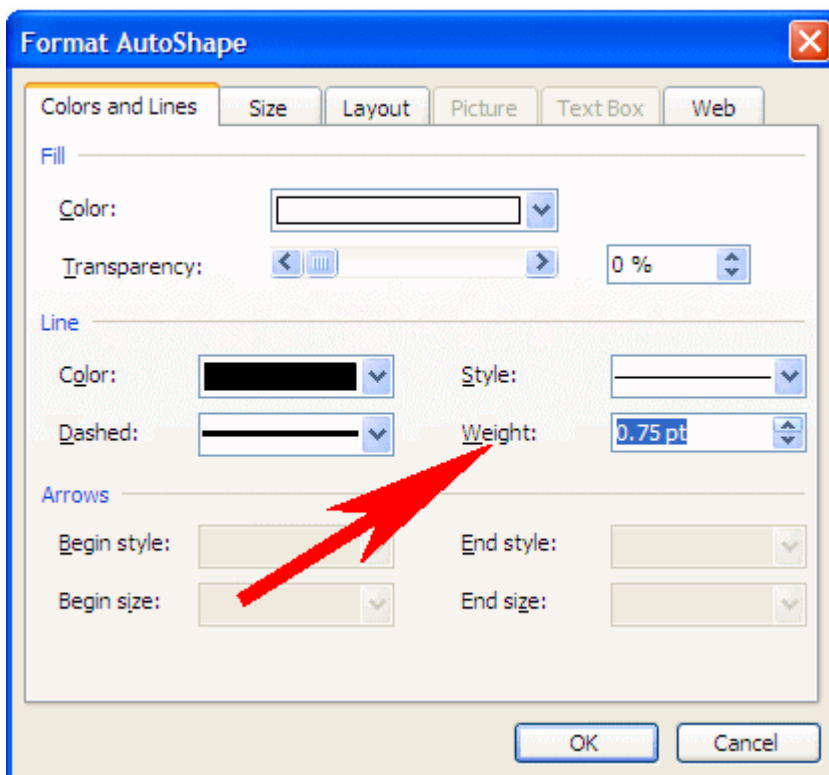
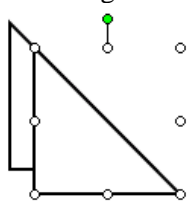
8.4 - Use Microsoft Word to Draw Similar Shapes

8. I want to change the "Line Weight" to 1.5.

- Click the "Colors and Lines" tab to work with those options.
- Change the "Line Weight" to 1.5
- Click "OK" to apply the changes to your autoshape.

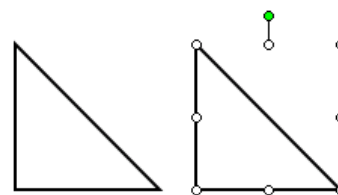
9. It is time to create a similar figure. We will copy the original and paste it. That will create a second figure that is congruent to the first.

- Select "Edit" from the menu bar.
- Select **Copy**
- Select "Edit" from the menu bar.
- Select **Paste**
- You will have copied and pasted the triangle.



10. The triangles may be overlapping.

- Hover over the center of the triangle until your cursor turns into a 4-way arrow.
- Click the triangle and drag it off to the right.

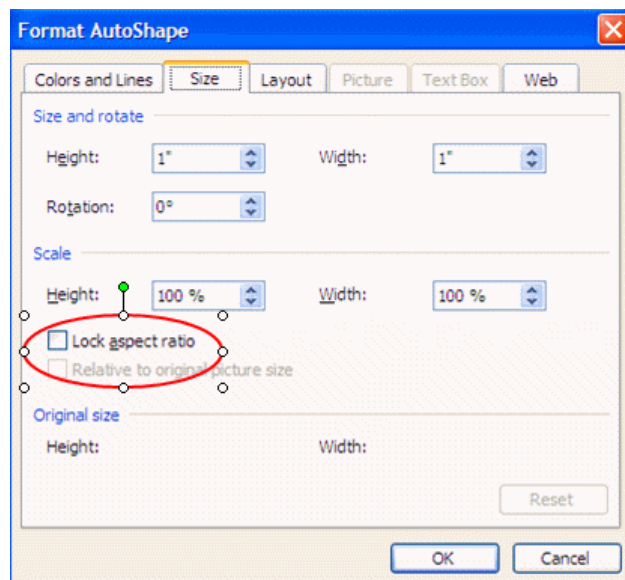


11. It is time to change the second figure so that it is smaller but maintains its proportions. We will need to format our new triangle.

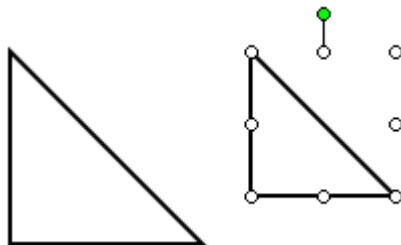
- Select "Format" from the menu bar.
- Slide to and click "Auto Shape"
- The "Format Auto Shape" wizard will appear.
- I want to change the "Size" so click the "Size" tab to work with those options.

12. The secret to creating a **similar** shape with Word is the "Lock Aspect Ratio" feature. This feature will force the proportions to remain the same and create a similar shape to the original.

- Click the checkbox next to "Lock Aspect Ratio".
- Change the height to 75 - but make sure you are in the scale section as shown - you wouldn't want to make a 75 inch triangle!
- Select "OK" to apply the changes to your figure.



8.4 - Use Microsoft Word to Draw Similar Shapes

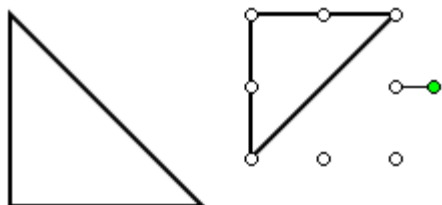
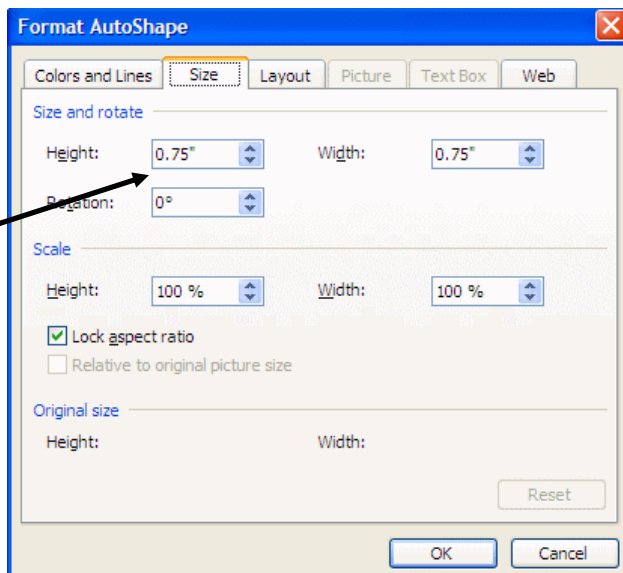


13. We have created a pair of similar triangles. Let's rotate the new triangle to make it look a little less similar.

- Select "**Format**" from the menu bar.
- Slide to and click "**Auto Shape**"
- The "**Format Auto Shape**" wizard will appear.

14. **Rotation** is on the "**Size**" tab so select the "**Size**" tab to continue.

15. Change the rotation to **90** and click **OK** to apply the changes to your triangle.



16. Very well done (I hope). Now repeat steps 8-20 with several other shapes. You will become a master of similar shapes, aspect ratio and rotation in no time at all!

17. Don't forget to use "**View**" - "**Header and Footer**" to put your name on your paper!