

CHAPTER 7

INFOCUS

SHAPES

Illustrator provides several shape tools which are divided into two groups: the **Rectangle** tool group and the **Line Segment** tool group. Each tool group contains tools that enable you to create a range of basic shapes such as ellipses, polygons, stars, squares and so on.

This chapter will guide you through creating and editing basic shapes in Illustrator CC.

In this session you will:

- ✓ gain an understanding of the shape and colour tools on the **Tools** panel
- ✓ learn how to prepare the workspace
- ✓ learn how to create basic shapes
- ✓ learn how to create polygons
- ✓ learn how to create rounded rectangles, ellipses and stars
- ✓ learn how to create lines and spirals
- ✓ learn how to edit path segments with the **Direct Selection** tool
- ✓ learn how to use the **Offset Path** feature
- ✓ gain an understanding of **Drawing Modes**.

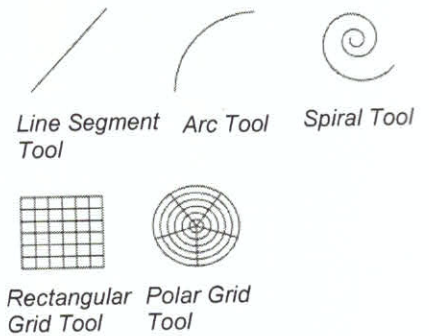
UNDERSTANDING THE SHAPE AND COLOUR TOOLS

Illustrator CC provides two shape tool groups: the **Line Segment** tool group and the **Rectangle** tool group. Each group contains several tools for creating a range of basic shapes, including

squares, stars, rounded rectangles, polygons, simple lines, and so on. Once you have created a shape you can use the **Colour** tools to apply the required **fill** and **stroke** colours to an object.

The Line Segment Tool

The **Line Segment** tool enables you to draw straight lines. The images to the right show the additional shape tools that are included in the **Line Segment** group of tools.



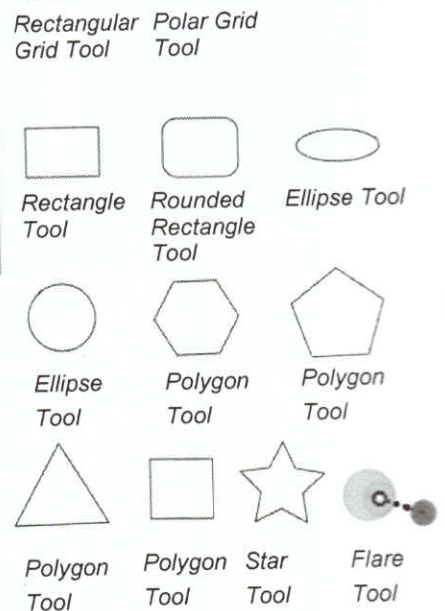
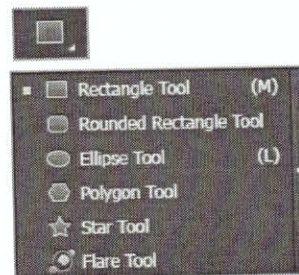
The Rectangle Tool

The **Rectangle** tool enables you to create rectangles and squares. The image to the right shows the additional shape tools that are included in the **Rectangle** group of tools.

You can increase or decrease the number of sides or points when using the **Polygon** and **Star** tools, by pressing **↑** or **↓** while drawing these shapes.

Press **Shift** while drawing circles or rectangles to create perfect shapes.

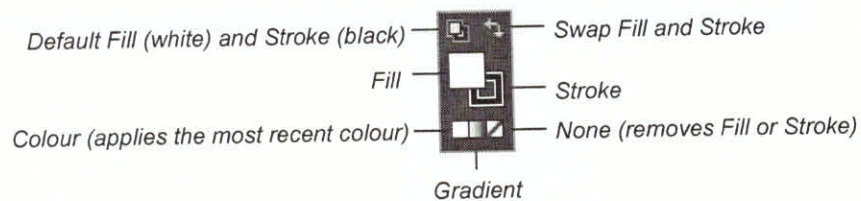
Press **Shift** while drawing circles or rectangles to create perfect shapes. Press **Shift** while drawing stars and polygons to ensure these shapes are straight.



Applying Colour To Shapes

Colour can be applied as a **Fill** (applied to the inside of a shape) or as a **stroke** (applied to the outline around the shape). Applying colour to shapes is a very straightforward process. Simply select the shape you wish to apply colour to and use the **Fill** and **Stroke** tools on the **Tools** panel to apply colour.

The picture below shows the colour tools on the **Tools** panel.



By default, the fill is set to **white** and the stroke is set to **black**. You can apply these default colours to a selected object by clicking on **Default Fill and Stroke** on the **Tools** panel.

As the **Fill** and **Stroke** boxes overlap, you need to make sure that you are working with the right one. The active option is sitting in front. To use the option behind, click on it to bring it to the front, or press **X**.

Once you have the correct box sitting at the front, you can click on it to apply the current colour to the selected object. To change the colour of the fill or stroke, double-click on either the **Fill** or **Stroke** box to display the **Colour Picker** dialog box, then select another colour. There are, however, many other ways to select, apply and work with colour in Illustrator and you will learn many of these as you complete this course.

PREPARING THE WORKSPACE

Before you start drawing and creating your art in Illustrator you need to prepare the workspace. This may include tasks such as displaying rulers and grids and activating **Smart Guides**, as well

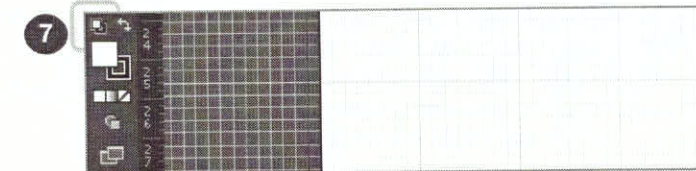
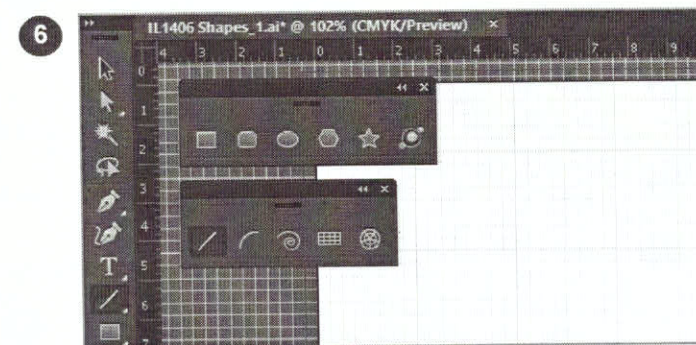
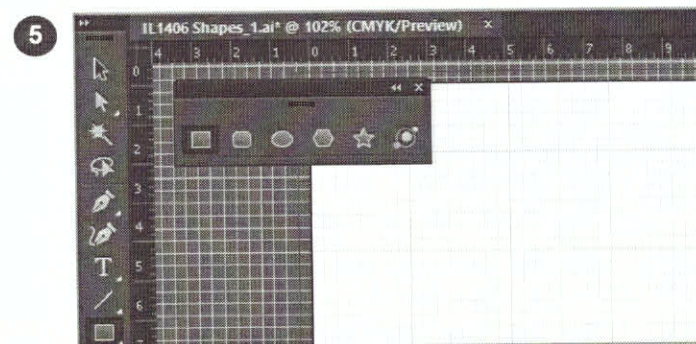
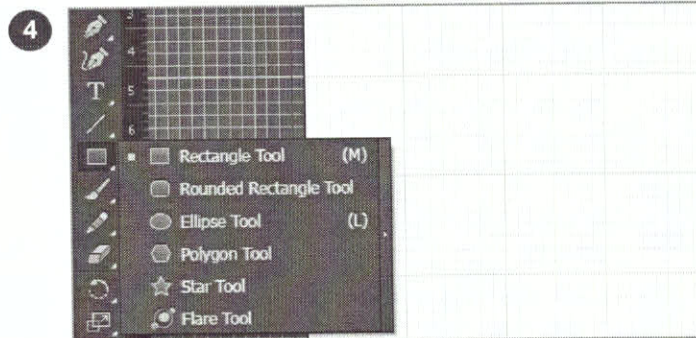
as displaying additional tools and ensuring you have the right panels at hand for the job. This exercise will take you through the common preparatory tasks when starting new projects.

Try This Yourself:

Open File Before starting this exercise you **MUST** open the file *IL1406 Shapes_1.ai...*

- 1 Select **View > Fit Artboard in Window** to centre the artboard
- 2 Select **View > Rulers > Show Rulers** to display the document rulers, then select **View > Show Grid** to display the grid if it is not already displayed
- 3 Select **View** and ensure **Smart Guides** appears with a tick (select it if required)
- 4 Click and briefly hold down the left mouse button on the **Rectangle** tool in the **Tools** panel to display the group of tools
- 5 Click on the arrow bar on the right of the group of tools so it appears as a floating panel, then move it into position as shown
- 6 Repeat steps 3 and 4 to display and position the **Line Segment** tools, as shown
- 7 In the **Tools** panel, click on **Default Fill and Stroke** or press **D**

This will set the fill to white and the stroke to black for the shapes you will draw



For Your Reference...

To **prepare** the **workspace**:

1. Select **View > Rulers > Show Rulers**
2. Select **View > Show Grid** if applicable
3. Ensure **Smart Guides** are turned on (**View > Smart Guides**)
4. Display additional tools and panels as needed

Handy to Know...

- The way you prepare your workspace will ultimately be determined by your personal preferences as well as by the requirements of the task at hand.

CREATING BASIC SHAPES

There are several methods you can use to draw basic shapes such as squares, circles, rectangles and ellipses in Illustrator. You can click and drag to draw a shape, or click on the artboard and

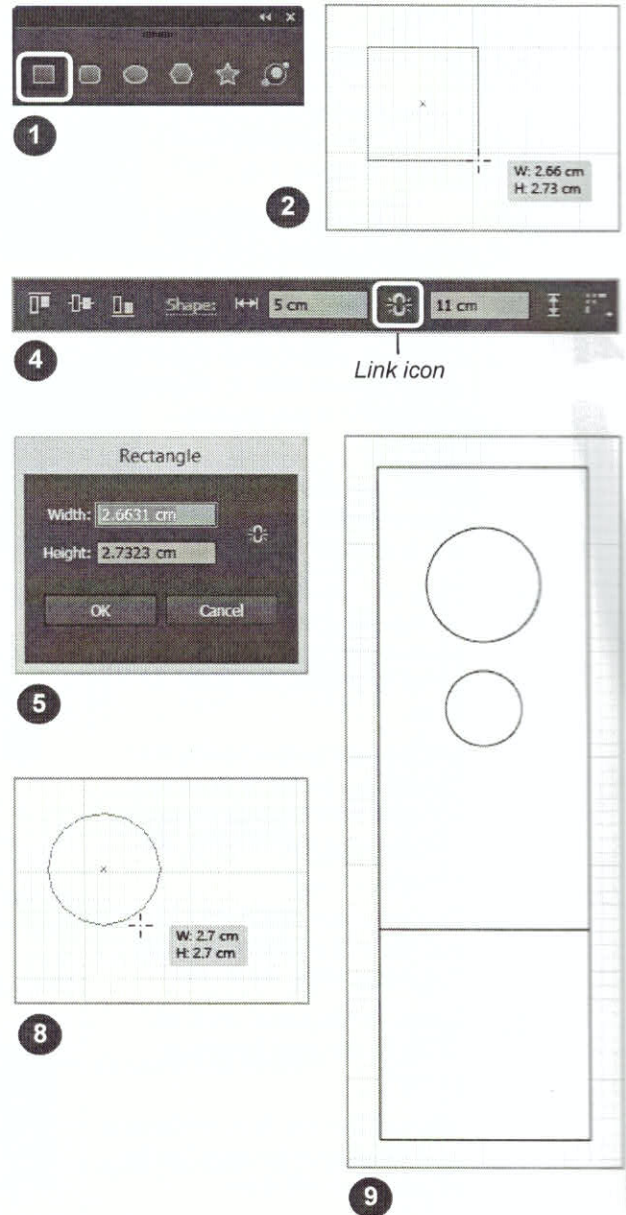
then specify the required dimensions for the shape. Assuming **Smart Guides** are turned on, a measurement label will appear as you draw a shape showing its **width** and **height**.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file IL1406 Shapes_2.ai...

- 1 Press **M**, or click on the **Rectangle** tool to select it
- 2 Click and drag on the artboard to begin drawing a shape
- 3 When the measurement label shows a width (**W:**) of approximately **5 cm** and a height (**H:**) of approximately **11 cm**, release the mouse button
- 4 In the **Control** panel, set **W:** at **5 cm** and **H:** at **11 cm** exactly
Ensure the link icon is not selected...
- 5 With the **Rectangle** tool still selected, click once on the artboard
The Rectangle dialog box appears...
- 6 Type **5** in **Width**, press **Tab**, type **5** in **Height**, then click on **[OK]** to create a rectangle with these dimensions
Let's use the Ellipse tool to create a circle...
- 7 Press **L**, or click on the **Ellipse** tool to select it
- 8 Hold down **Shift**, click and drag on the artboard until the measurement label shows a **W:** and **H:** of approximately **2.7 cm**, then release the mouse button
- 9 Repeat step 8 to draw a circle with a **W:** and **H:** of approximately **1.8 cm**, press **V** to activate the **Selection** tool, then click and drag the shapes to arrange them as shown in the middle of the artboard



For Your Reference...

To **draw basic shapes**:

1. Click on the required tool in the **Tools** panel
2. Click and drag on the artboard, or
Click once on the artboard, type the required measurements, then click on **[OK]**

Handy to Know...

- You can copy an existing shape by selecting it, holding down **Alt**, then clicking and dragging it to the required location.
- Press **Alt** while drawing a shape to define the starting point as the centre of the shape.

CREATING POLYGONS

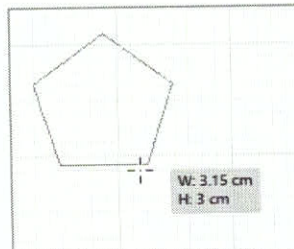
The **Polygon** tool in the **Rectangle** tool group allows you to create triangles as well as shapes with more than four sides. You can specify how many sides you require the shape to have before

creating it or you can modify the number of sides as you draw the shape.

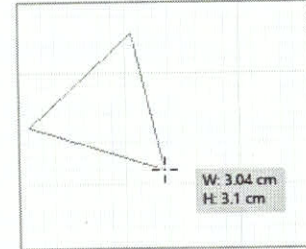
Try This Yourself:

Same File Continue using the previous file with this exercise, or open the file *IL1406 Shapes_3.ai...*

- 1 Click on the **Polygon** tool in the **Rectangle** tool group, then click and drag on the artboard to start drawing a polygon
The shape may have a different number of sides than the one shown...
- 2 As you drag, press **↓** until the shape has three sides
The shape is now a triangle...
- 3 Press and hold **Shift** as you continue to drag outwards to keep the base horizontal until the label shows a **W:** of **6 cm**, release the mouse button, then release **Shift**
- 4 Draw another triangle with a **H:** of approximately **15 cm**, then position the triangles as shown
- 5 Select the large triangle, then select **Object > Arrange > Send to Back** to position it behind the other shapes
Let's create a polygon with more sides...
- 6 Click on the **Polygon** tool in the **Rectangle** tool group, then click once on the artboard to display the **Polygon** dialog box
- 7 Select the value in **Radius** and type **1**, press **Tab**, then type **8** in **Sides**
- 8 Click on **[OK]** to create the shape, then position it as shown

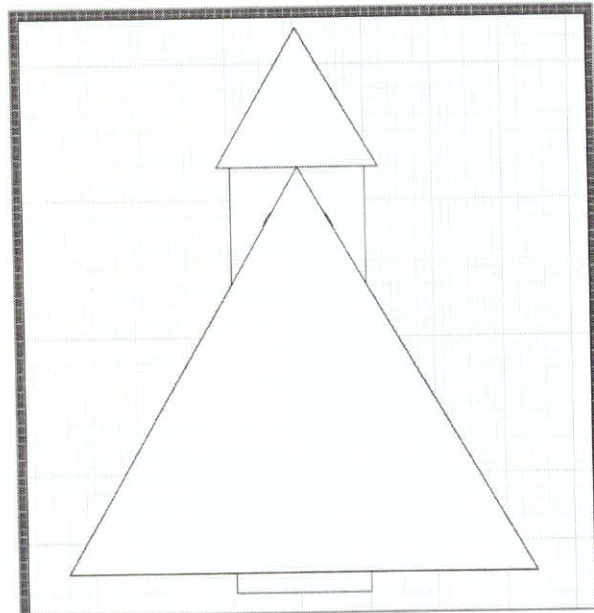


1

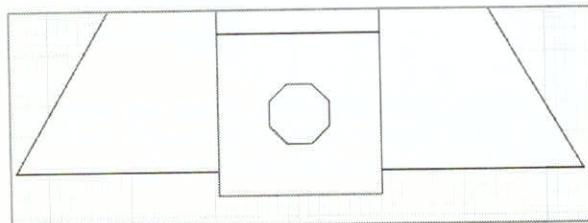


2

4



8



For Your Reference...

To create a **polygon**:

1. Click on the **Polygon** tool in the **Rectangle** tool group
2. Click and drag to draw a shape, using the arrow keys to change the number of sides

Handy to Know...

- Once the **Polygon** tool has been used, the next time you use it the shape will automatically have the same number of sides as the last shape that you drew using the tool.

CREATING OTHER SHAPES

In addition to rectangles, circles and polygons, you can also create rectangles with rounded corners, ellipses and stars in Illustrator. In this exercise we will create rounded rectangles to

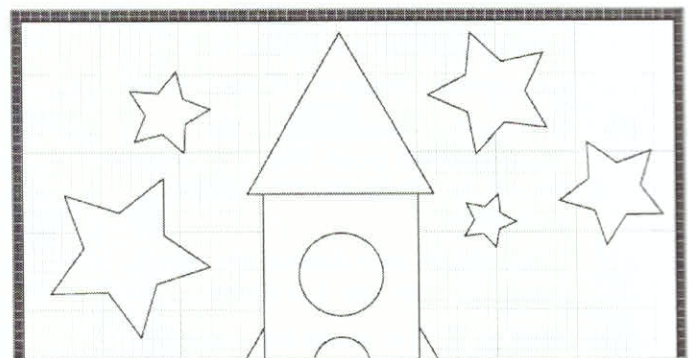
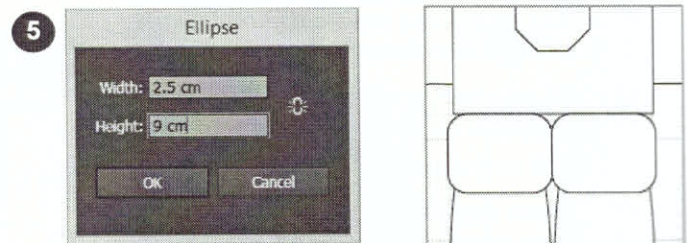
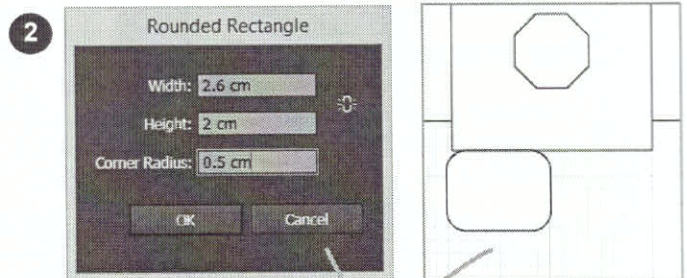
serve as the jets of our rocket, then ellipses to act as the flames emitting from the jets. We will also create some stars to surround the rocket.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file IL1406 Shapes_4.ai...

- 1 Click on the **Rounded Rectangle** tool in the **Rectangle** tool group, then click on the artboard to display the **Rounded Rectangle** dialog box
- 2 Enter the values as shown, then click on **[OK]** to create the shape and position it at the bottom of the rocket as shown
- 3 Select the rounded rectangle, press **Ctrl + C** to copy it, press **Ctrl + V** to paste the copy, then position it next to the original
- 4 Click on the **Ellipse** tool in the **Rectangle** tool group, then click on the artboard to display the **Ellipse** dialog box
- 5 Enter the values as shown, then click on **[OK]** to create an ellipse
- 6 Repeat step 3 to make a copy of the ellipse, then position the shapes and send them to the back as shown
- 7 Click on the **Star** tool in the **Rectangle** tool group, then click and drag on the artboard to create a star
- 8 Repeat step 7 to create four more stars of various sizes and position them approximately as shown



For Your Reference...

To create a shape:

1. Click on the required shape tool
2. Click and drag on the artboard, or
Click once on the artboard, enter the required values, then click on **[OK]**

Handy to Know...

- You can display the **Star** dialog box by selecting the **Star** tool and clicking once on the artboard. Using this dialog box, you can specify how many points you want the star to have and the distance between the centre of the star and its outer points (**Radius 1**) and inner points (**Radius 2**).

CREATING LINES AND SPIRALS

Lines – including straight lines, arcs and spirals – can be a versatile and effective addition to an artwork. You can use them to connect elements of your work, build on other objects, or add detail

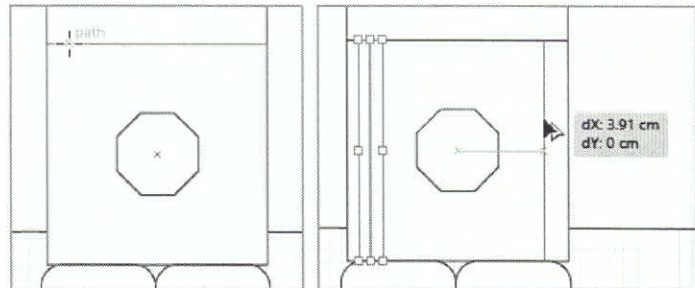
to a picture. In Illustrator the tools for creating lines are located in the **Line Segment** tool group.

Try This Yourself:

Same File

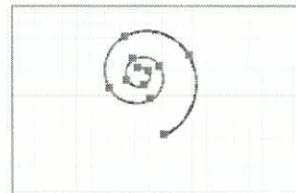
Continue using the previous file with this exercise, or open the file *IL1406 Shapes_5.ai...*

- 1 Press **[\]** or click on the **Line Segment** tool to activate it, then point to the top of the square near the top left corner as shown
- 2 Hold down **[Shift]**, then click and drag down until you reach the bottom border of the square
- 3 Release the mouse button to complete the line, then release **[Shift]**
- 4 Press **[V]**, click on the line to select it, hold down **[Alt]**, then click and drag the line to the right until the measurement label shows a **dX** position of approximately **3.9 cm**
- 5 Release the mouse button, release **[Alt]**, then click elsewhere to deselect the line
- 6 Click on the **Spiral** tool in the **Line Segment** tool group, then click and drag on the artboard to start drawing a spiral
- 7 When the label shows a **W:** of about **2 cm**, release the mouse button
- 8 With the **Spiral** tool still active, click once on the artboard to display the **Spiral** dialog box
- 9 Enter the values as shown, click on **[OK]** to create a spiral, then position the spirals as shown



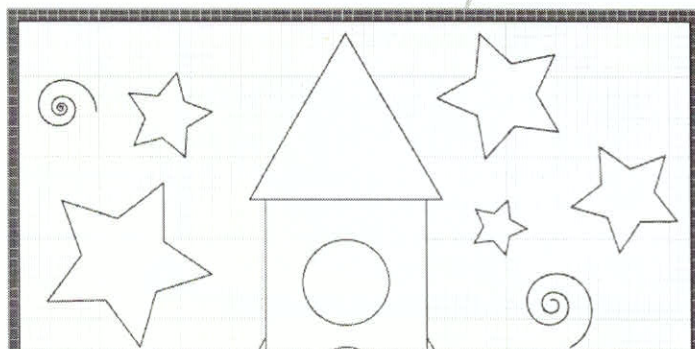
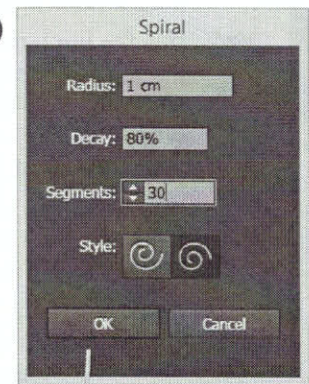
1

4



7

9



For Your Reference...

To create a **straight line**:

1. Select the **Line Segment** tool
2. Click at the starting point of the line, hold down **[Shift]**, then drag to the end point
3. Release the mouse button, then release **[Shift]**

Handy to Know...

- You can rotate a spiral as you draw it by dragging in a different direction.
- Holding down **[Shift]** while drawing a line ensures that the line remains perfectly straight.

EDITING PATH SEGMENTS

The **Direct Selection** tool enables you to work with individual **path segments** to manipulate the shape of an object. With this tool you can click on one or more anchor points and then adjust the

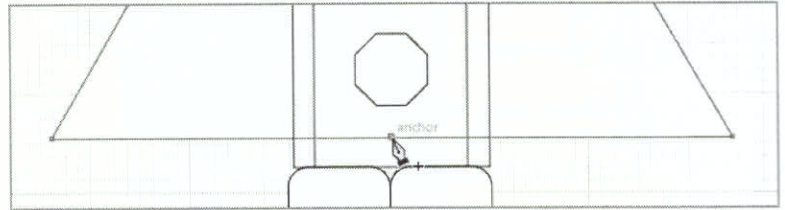
path segment(s) as required. In this exercise you will make basic changes to the path of the rocket's wings.

Try This Yourself:

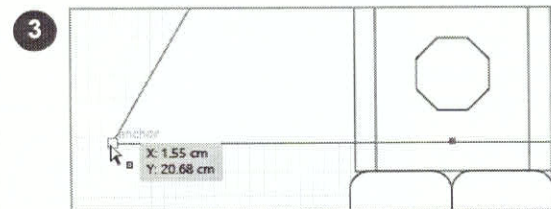
Same File

Continue using the previous file with this exercise, or open the file *IL1406 Shapes_6.ai...*

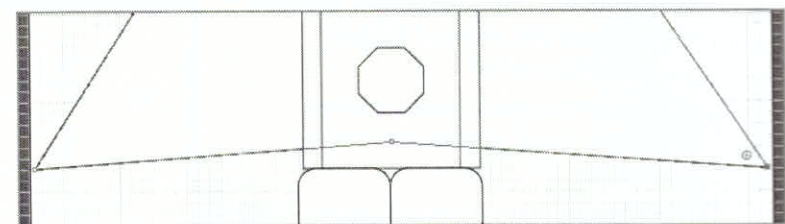
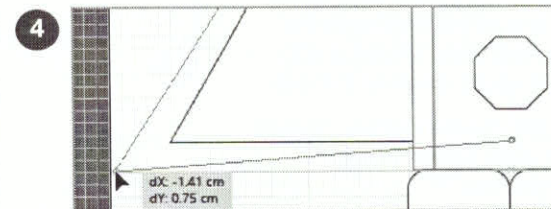
- 1 Press **V**, click on the large triangle to select it, then press **+** to select the **Add Anchor Point** tool
You can access this tool in the Pen tool group...
- 2 Point to the halfway point on the base of the triangle, then click on the path to add an anchor point
- 3 Press **A** to select the **Direct Selection** tool, then point to the bottom left corner of the triangle until the **anchor** label is displayed
- 4 Click and drag the anchor point out to the edge of the artboard and align it with the bottom of the square, as shown
- 5 Release the mouse button to complete the change
- 6 Repeat steps 3 to 5 to apply the same changes to the right wing, as shown



2



3



6

For Your Reference...

To **edit path segments**:

1. Click on the **Direct Selection** tool
2. Click and drag an anchor point as required

Handy to Know...

- You can adjust multiple path segments at once. Hold down **Shift** while clicking on each of the required anchor points, then adjust as needed.

USING OFFSET PATH

Illustrator has a feature called **Offset Path** which creates a copy of a selected object and offsets it (this is, increases or decreases the size of the copied object relative to the size of the original

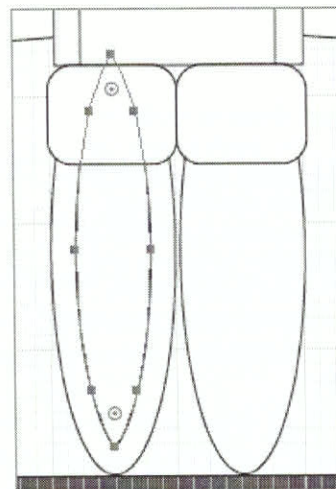
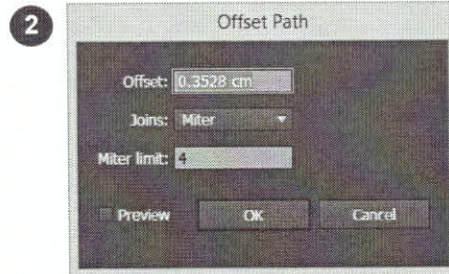
object) by a specified distance. This is useful when you need to duplicate an object repeatedly and want equal and regular distances between each offset object.

Try This Yourself:

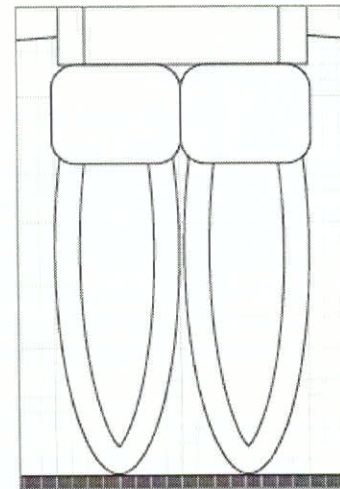
Same File

Continue using the previous file with this exercise, or open the file *IL1406 Shapes_7.ai...*

- 1 Press **V** to activate the **Selection** tool, then select the left ellipse
- 2 Select **Object > Path > Offset Path** to display the **Offset Path** dialog box
We need to enter the distance (in centimetres) that we want the copy to be offset from the original...
- 3 Type **-0.5** in **Offset**
The copied object will be offset and its size reduced (because of the negative value – a positive value would increase the size of the copied object) by 0.5 cm relative to the original object...
- 4 Click on **Preview** so it appears ticked to preview the change on the artboard
- 5 Click on **[OK]** to make the change
- 6 Repeat steps 1 to 5 for the ellipse on the right, then click elsewhere to deselect the object and view the result



5



6

For Your Reference...

To **copy** and **resize objects** using **Offset Path**:

1. Select the object(s) to be copied and offset
2. Select **Object > Path > Offset Path**
3. Type an **Offset** distance
4. Click on **[OK]**

Handy to Know...

- The **Joins** option in the **Offset Path** dialog box contains settings for the appearance of stroke angles (corners). The default setting is **Mitre**, or sharp corners. Other options include **Bevel** for 'cut-off' corners and **Round** for rounded corners. These options are also available in the **Stroke** panel.

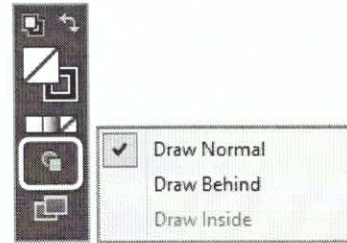
UNDERSTANDING DRAWING MODES

Illustrator provides you with three **drawing modes**: **Draw Normal**, **Draw Behind** and **Draw Inside**. These modes make it easy to draw objects directly in the required position, rather

than drawing them in a specific order or having to spend time sending objects forwards and backwards.

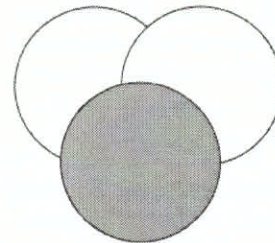
Drawing Modes

Drawing Modes control where objects are drawn: in front of, behind, or inside existing objects. The **Drawing Modes** tools are located immediately below the colour tools on the **Tools** panel. If the **Tools** panel is displayed in one column, the **Drawing Modes** tools will be displayed in a menu, as shown. If the **Tools** panel is displayed in two columns, the **Drawing Modes** tools will be displayed as individual icons. You can also use the keyboard shortcut **Shift + D** to switch between the tools.



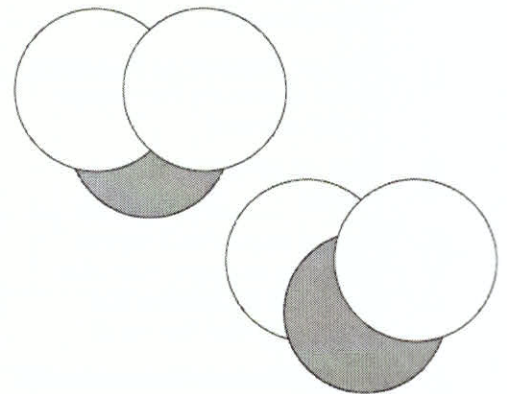
Draw Normal

Draw Normal mode is the default drawing mode in Illustrator. When you use this mode, each shape that you draw will appear in front of existing shapes so that the newest shape will be at the front and the oldest shape at the back. If you want to change the order of the shapes you will need to send them forwards and backwards or place them on different layers. In the example to the right, the grey circle was drawn last and is therefore in front of the other two circles.



Draw Behind

Draw Behind mode allows you to draw shapes behind existing objects while remaining on the same layer. You can choose to draw the shape behind all of the existing objects (i.e. at the back), or select the objects behind which you want to draw before drawing the shape. Two examples are shown to the right. In the top example, neither of the white circles were selected when the grey circle was drawn using **Draw Behind** mode, so it was drawn behind all existing objects (the white circles). In the bottom example, the white circle on the right was selected before drawing the grey circle, so this was the only object the grey circle was drawn behind.



Draw Inside

When you choose **Draw Inside** mode you can draw a shape within the confines of an existing shape. The drawn shape can be of any size, but only the portion within the path of the selected shape will be visible. The process of drawing a shape inside another is shown below, with the grey circle being drawn inside the selected white circle.

