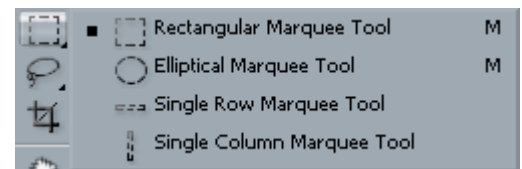# Using Adobe Photoshop

5 – Selection

When you are working with raster images, it can be difficult to select the part of the image you need to edit. That is because your computer won't be able to distinguish different parts of the image and will only see it as a collection of pixels. For this reason, knowing how to select areas in an image is crucial to being able to work effectively in Photoshop. Fortunately, Photoshop provides a wide range of tools to make the task simpler.

Several marquee tools are available for selecting shaped areas in an image. A range of lasso tools can be used for selecting less regular shapes. Other tools such as the magic wand tool and selection masks make it possible to be very precise in what parts of the image you select.

1 - Selection Marquees

Photoshop's tool palette provides four selection marquee tools. A selection marquee is an outline that is created around a certain part of an image. That part of the image can then be copied, coloured etc without affecting the rest of the image. The four standard marquees are described below.

Rectangular		Used to select rectangular shaped areas. Holding down **[Shift]** while you select forces a symmetrical square shaped area. Holding down **[Alt]** while selecting selects from the middle outwards.
Elliptical		Used to select elliptically shaped areas. Holding down **[Shift]** while you select forces a symmetrical circle shaped area. Holding down **[Alt]** while selecting selects from the middle outwards.
and	**Single Row / Column**	Used to select a single line of pixels either horizontally or vertically.

The Marquee tool is selected with the **[M]** key. You can use **[Shift] [M]** to switch between the rectangular and elliptical marquee tool.

Exercise 1 –   Using Selection Marquees

1) Open the file called *Selections.png*. This image contains several shapes that we can use as practice in selecting parts of the image.

2) Select the **Rectangular Marquee Tool** by clicking on the icon ⬚ or by pressing **[M]**. Your mouse will change to a cross shape + when it is over the picture.
3) Move your mouse to the top corner of the rectangle in the picture.
4) Drag to the opposite corner to select the rectangle. A moving outline will surround the selected area.
5) From the **View** menu select **Extras** or press **[Ctrl] [H]**. The area is still selected but the marquee border has been hidden which can be handy if you don't need it showing.
6) Press **[Ctrl] [H]** to show the selection marquee again.

You can cancel a selection by clicking outside the selected area, though that is a bad habit to get in to since it's generally not a good idea to click on your picture without a specific reason. A better way is to use the deselect command.

7) From the **Select** menu select **Deselect** or press **[Ctrl] [D]**.

| Tip	Photoshop has a lot of keyboard shortcuts but some such as **[Ctrl] [D]** are well worth remembering as they can save you a lot of time.

8) Try selecting other rectangular areas while holding down the **[Shift]** key, the **[Alt]** key and both.
9) Use the **[Ctrl] [D]** shortcut after each one.

10) From the **Tool Palette**, switch to the **Elliptical Marquee Tool** by holding your mouse on the **Rectangular Marquee Tool** icon and then clicking the **Elliptical Marquee Tool** icon, or by pressing **[Shift] [M]**.
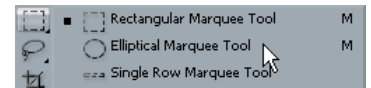
Rectangle shapes are easy enough to select from one corner to another but not ellipses since they have corners. It isn't as hard to estimate the centre of an ellipse though so selecting from the centre out using the **[Alt]** key is a lot simpler. The circle in the *Selections* image has a spot in the centre to make it easier. Because we want to select a perfect circle shape, we will need to hold down the **[Shift]** key as well.

11) Move your mouse over the spot in the middle of the circle.
12) Hold down the **[Shift]** and **[Alt]** keys and then drag outwards until the circle is selected.
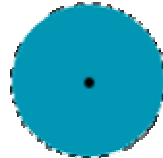
13) If your selection wasn't quite centred, move your mouse inside the selected area and drag to reposition it. You can also use your arrow keys to nudge it a small amount in any direction you need.
14) Leave the circle selected.

2 - Moving / Copying a Selected Area

When you have part of your image selected, you can move or copy it to other parts of the image. You can even copy it to other layers (explained in the next section) or to another image. Be aware though that if you move / copy it to another part of the image, it will replace the pixels in that part of the image. The part of the image you move it over can't be recovered without the use of **Undo** or **History** features.

Exercise 2 –   Using the Move Tool

1) Select the **Move** tool by clicking the icon on the **Tool Palette** or press **[V]**. Your mouse will change shape when you move it over the image.
2) Move your mouse inside the selected area. A picture of a pair of scissors will appear next to the mouse to indicate that dragging will cut (move) the selected part of the image.
3) Drag the selected area in to the orange area at the bottom of the image. The area left behind will be filled with your selected background colour (or left empty if you are working in layers as you will be later).
4) As long as the selection marquee remains around the circle you will still be able to move it freely. Move it around the orange area some more.
5) As soon as the circle is deselected, it will replace whatever pixels it is on top of. Press **[Ctrl] [D]** to deselect the circle. The orange pixels in that part of the image are now replaced with the pixels of the circle that was selected.
6) Select **Elliptical Marquee** tool and select the circle again.
7) Select the **Move** tool and move the circle again. The area you move the circle from will again be filled with the background colour. The orange pixels are gone.
8) Press **[F12]** to revert the image to its saved state.

Tip	Holding the **[Alt]** key while using the move tool will mean you will copy the selected area instead of moving it.

## Exercise 3 – Copying and Temporarily using the Move Tool

1) Select the **Rectangular Marquee** tool and select the rectangle shape.

Just as you can temporarily select the **Move** and **Zoom** tools using shortcuts, you can also temporarily select the move tool by holding down the **[Ctrl]** key while another tool is selected.

2) Hold down **[Ctrl]** to temporarily select the Move tool.
3) Hold down the **[Alt]** key as well as the **[Ctrl]** key to change the move tool to copying mode.
4) Drag the rectangle down to the orange area at the bottom of the image. This time a copy of the selected rectangle will be left behind instead of being filled with the background colour.

Tip   Holding down the **[Shift]** key as you drag will restrict movements to either vertical or horizontal depending on which way you move your mouse.

5) With the rectangle still selected, hold down **[Ctrl]** and press the arrow keys on your keyboard to move the selected area by a small amount in each direction. This can be an easy way to make fine adjustments to your positioning.
6) Move the rectangle in to the position shown below and then press **[Ctrl] [D]** to deselect it.
7) Press **[Ctrl] [Shift] [S]** for Save as.
8) Save the image as a Photoshop **PSD** file named *Selections.psd*.
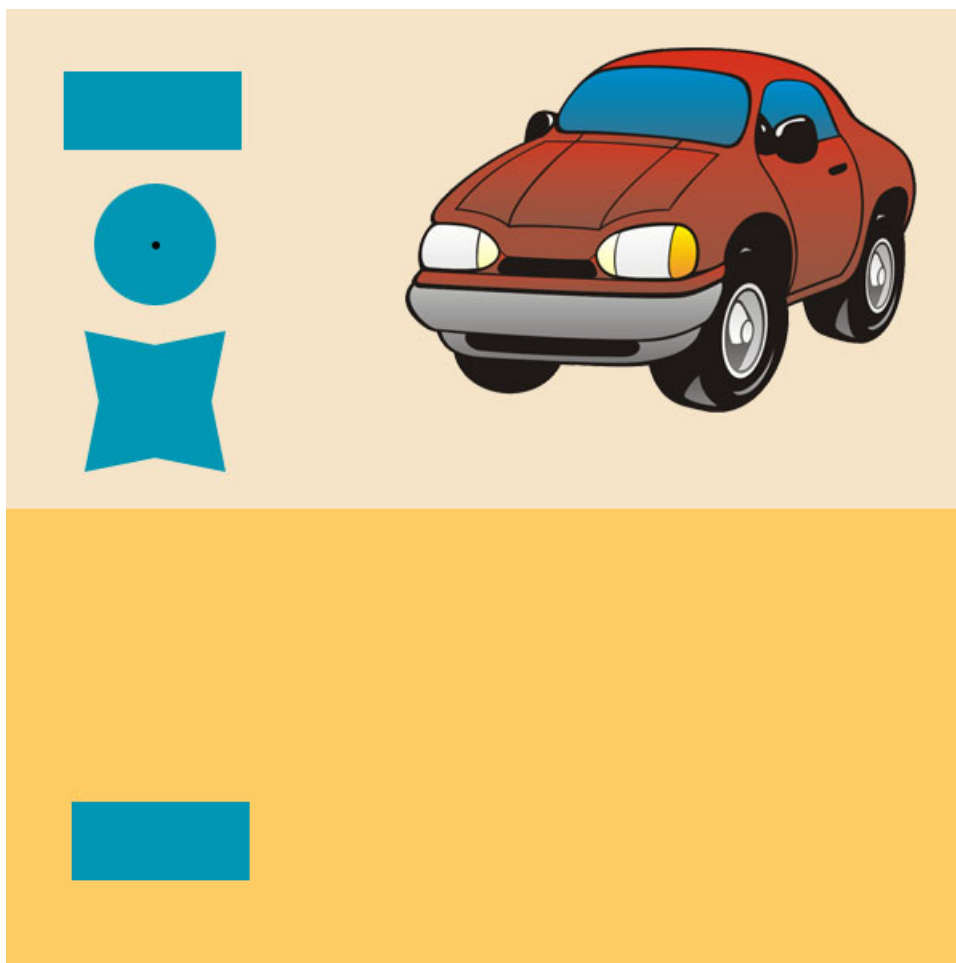
3 - Selection Lassos

Photoshop's lasso tools allow you to select areas that aren't a regular shape. There are three lasso tools. The regular **Lasso** tool allows you to make freehand selections. The **Polygonal Lasso** tool is used to make straight edged selections. The **Magnetic Lasso** tool has been introduced in recent versions of Photoshop to combine the features of the lasso tool with the features of the **Magic Wand** tool (explained on page 4 - 9). You can select the **Lasso** tool with the **[L]** key and you can switch between the lasso tools using **[Shift] [L]**.
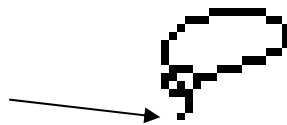
Exercise 4 –   Using the Lasso Tool

1) Zoom in so that you can clearly see the front of the car.

2) Select the **Lasso** tool by clicking the icon on the **Tool Palette** or by pressing **[L]**. Your mouse pointer will change in to a lasso shape when it is over the image.

To select using the lasso tool, you need to make sure that the tip of the lasso is over the area you want to begin selecting from.

3) Move your mouse over the top corner of the left headlight.

4) Carefully drag around the border of the headlight to select it.

5) Selecting areas of the image can be difficult with an unusually shaped mouse pointer. Press the **[Caps Lock]** key to change the mouse pointer to a crosshair shape. The mouse pointer will stay in this shape for as long as Caps Lock is turned on and will also work with many of Photoshop's other tools.

6) Press **[Ctrl] [D]** to deselect the headlight and then try it again with Caps Lock turned on.

If you don't go all the way around the shape then your starting and finishing points will be joined by a straight line to complete the selection.

Selections can also be refined by adding and subtracting areas. If you select while holding down the **[Shift]** key you will be adding to what is selected. If you select while holding down the **[Alt]** key you will be subtracting from what is selected.

7) Hold down the **[Alt]** key and select the yellow part of the headlight. Since we are removing from the selection, it doesn't matter if you stray in to the red area. In fact, it's a good idea to do just that to make sure you don't miss any of it.
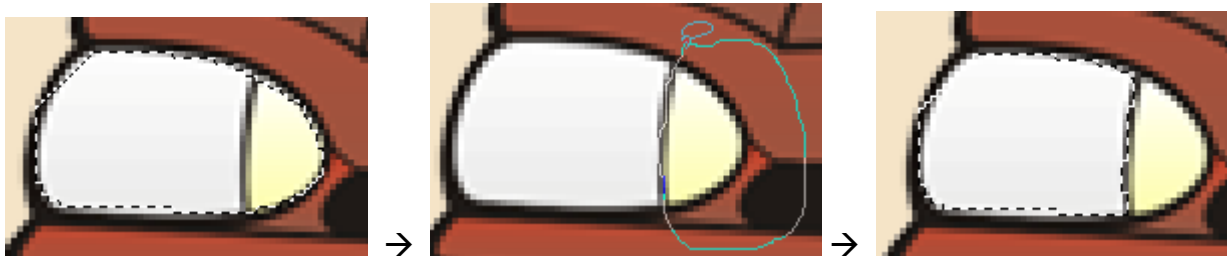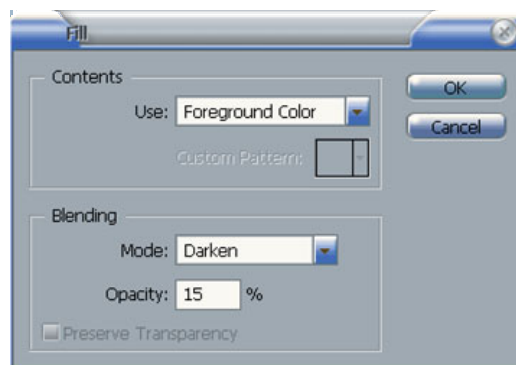
8) Hold down the **[Shift]** key while selecting the same section of the other headlight. You might want to turn on **[Caps Lock]** while you do it.

9) Press **[Ctrl] [H]** to temporarily hide the selection marquee (the headlights will still be selected)

10) Set your foreground colour to blue

11) From the **Edit** menu select **Fill** or press **[Shift] [F5]**.

12) In the **Fill** dialog set the following options.

Because we have an active selection, only the selected areas of the image will be affected by the fill.

13) Click **OK** to add the fill. The middle section of the headlights should now have a light blue tint.
14) Press **[Ctrl] [H]** to redisplay the selection marquee and then press **[Ctrl] [D]** to deselect the headlights.

15) Press **[Ctrl] [S]** to save the changes to the file.
16) Press the **[Caps Lock]** key to change the mouse pointer back to its normal shape if it has been turned on as the crosshair might not be so helpful when you are using other tools (or if you start to type).
17) Change the view to 100% magnification (you can use the **[Ctrl] [Alt] [0]** shortcut).

Tip	The **[Shift]** and **[Alt]** keys can be used with any selection tools. If you make a selection using one of the tools such as the Rectangular Marquee, you can add or subtract from the selection using a completely different selection tool. Holding down **[Shift]** and **[Alt]** at the same time will select the intersection of an existing selection and your new selection.

18) Practice selecting areas of the image using each of the selection tools you have used and using the **[Shift]** key, the **[Alt]** key and both together.
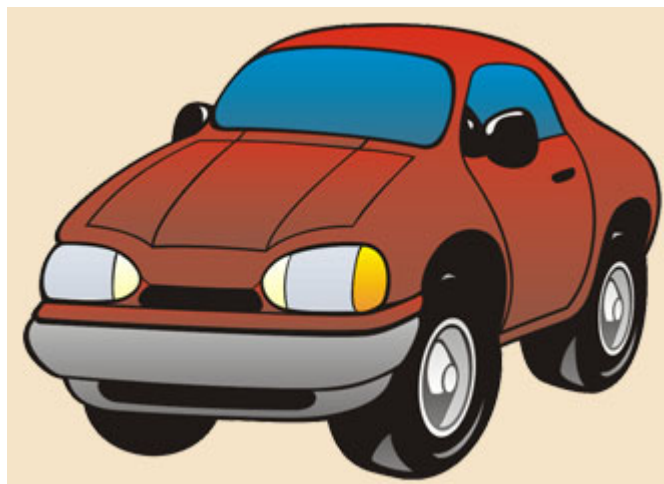
While you have a selection tool active, you can also use icons on the Options Palette to turn on options for controlling what will be selected when you use the tool.
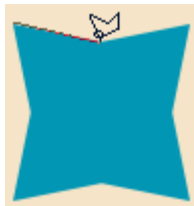
◻   Creates a new selection

◻   Adds to an existing selection

◻   Subtract from an existing selection

◻   Intersect with an existing selection

Exercise 5 –   Using the Polygonal Lasso Tool

1) Switch to the **Polygonal Lasso** tool by selecting it from the **Tool Palette** or by pressing **[Shift] [L]**.
2) Click in one of the corners of the star shape.

3) Click in the middle of the top section.

4) Move around the rest of the shape, clicking on each corner. When you return to the starting point, a small circle will appear next to your mouse pointer to let you know you can complete the selection.

5) Hold down **[Ctrl]** and **[Alt]** and then drag the selected shape to place a copy of it in the bottom section of the image.
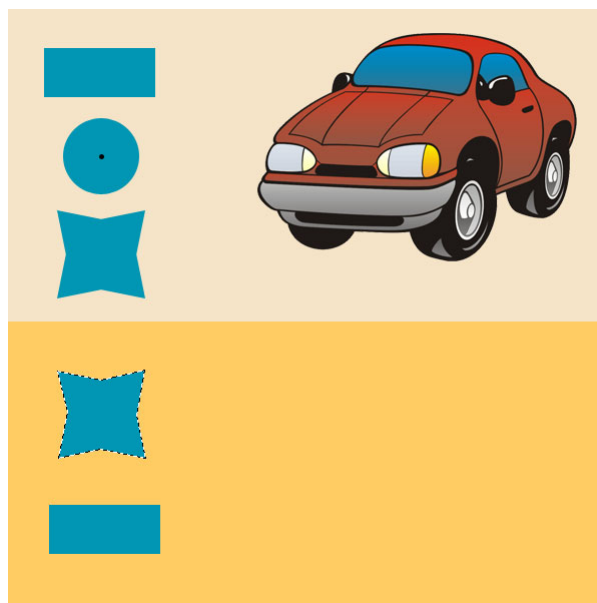
6) Press **[Ctrl] [D]** to deselect the copied shape.
7) Press **[Ctrl] [S]** to save your changes.

4 - Magnetic Selection Tools

Photoshop's magic wand tool can be used to select areas of a similar colour in the image. While it is being used, you can click on a part of the image, and all areas that have a similar colour will also be selected.

The most important option with the magic wand is the tolerance options. Remember that each channel in an image has 256 shades. The tolerance can be any value from 0 to 255. If a lower number is set for tolerance, then only colours that are very close to the colour of the pixel you click on will be selected. With a higher tolerance more will be selected. With a tolerance of 0, only colours exactly the same as the pixel you click on will be selected. Sometimes you may need to try it a few times with different tolerance amounts before you get it right.

The Magnetic lasso tool works like the regular lasso tool, except that the selection will follow parts of the image where there is a sudden change from one colour to another.

Exercise 6 –   Using the Magic Wand Tool

1) Select the **Magic Wand** tool by clicking the icon in the **Tool Palette** or by pressing **[W]**.
2) In the **Options Palette**, set the tolerance to 15.
3) Click inside the rectangle to select it.
4) In the **Options Palette** turn off the **Contiguous** option. This will mean that all similarly coloured areas of the image will be selected, not just adjacent areas.
5) Click on the Deselect the rectangle and then click on it again. Now all similarly coloured areas will be selected.
6) Turn the **Contiguous** option back on.
7) Click on the windscreen of the car. Only part of it will be selected.
8) Change the tolerance to 60 and try again. It should all be selected now depending on which part of the windscreen you clicked on.

9) Select the Rectangular marquee **[M]** and make a rectangular selection around the whole car.
10) Switch back to the magic want tool **[W]**.
11) Hold down **[Alt]** and click inside the area around the car to remove it from the selection. Now the only the car should be selected.
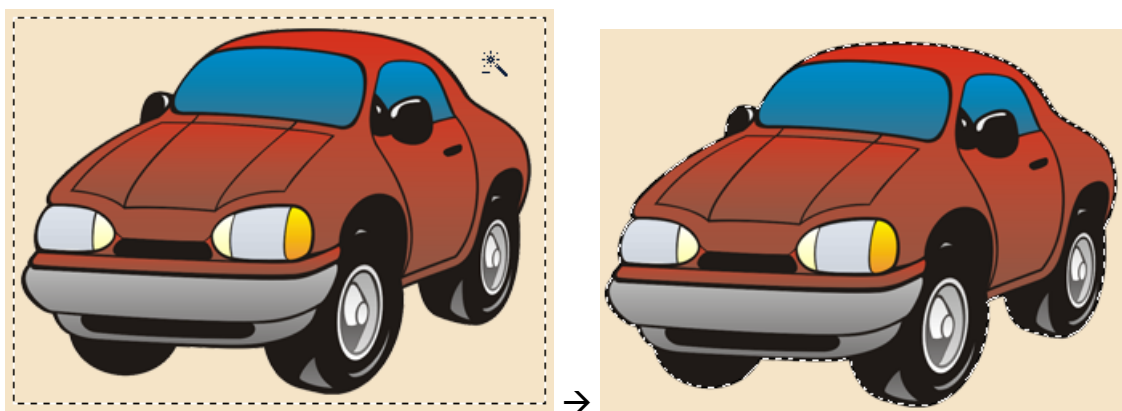
12) Copy the car to the bottom area of the image, deselect and save the changes to the file.

Note   When you use some Photoshop tools such as the magic wand, the options will remain on whatever settings you used the last time you used that tool

## Exercise 7 –   Using the Magnetic Lasso Tool

The Magic Wand tool is useful when you are selecting areas that are a similar colour as seen in the previous exercise. It's not so useful when there are no such areas. This is where the **Magnetic Lasso** comes in handy.

1) Open the image called *park.jpg*. We will use this image as the background for another image that we will work with.
2) Open the image called *portrait.jpg*.

We need to select the boy so we can copy him in to the other image. There are no obvious areas to use the magic wand tool with and tracing around the subject with the Lasso tool would require an unreasonable amount of precision. The **Magnetic Lasso** provides an ideal solution. As you trace around an area with this tool, the selection marquee will snap on to areas of the image where there is a sudden change in contrast.

3) Selecting an irregular shape like a human in a photo requires a lot of precision which is easier at higher magnification. Zoom in on the picture so you can see a close up view of the area shown below.
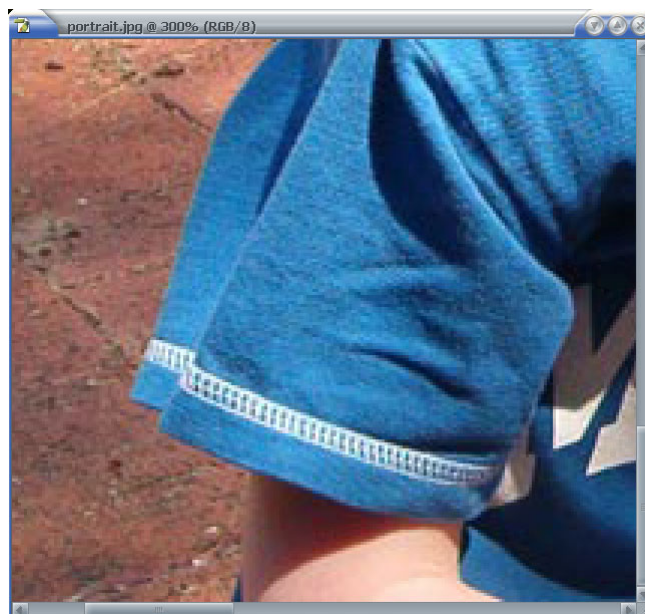
4) Select the **Magnetic Lasso** tool from the **Tool Palette** or from the **[Shift] [L]** shortcut.

5) Take a look at the options available in the Options Palette. You will notice three settings in the middle of the palette. In some cases you may need to change these options to improve your results with the tool.
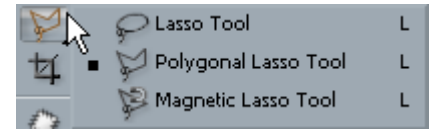
Width: 10 px   Edge Contrast: 6%   Frequency: 57

Width   How far from your current position Photoshop will check for colour changes.

Edge Contrast   How much difference in colour there needs to be before the tool detects the change.

Frequency   How frequently Photoshop will add **fastening points**.

6) Click on a point along the edge of the area you want to select.

7) Slowly move the mouse around the edge of the area you are selecting. There is no need to hold the mouse button down. A selection marquee will follow the outline based on the colour contrast between the area you are selecting and the surrounding area. At regular intervals, Photoshop will place **Fastening Points**, small dots which indicate anchor points for the selection. If you want to make sure the selection goes along a certain path (such as when you get to a corner) you can click to place your own fastening points wherever you need them.

You may need to click to make sure a fastening point is placed in spots like these.
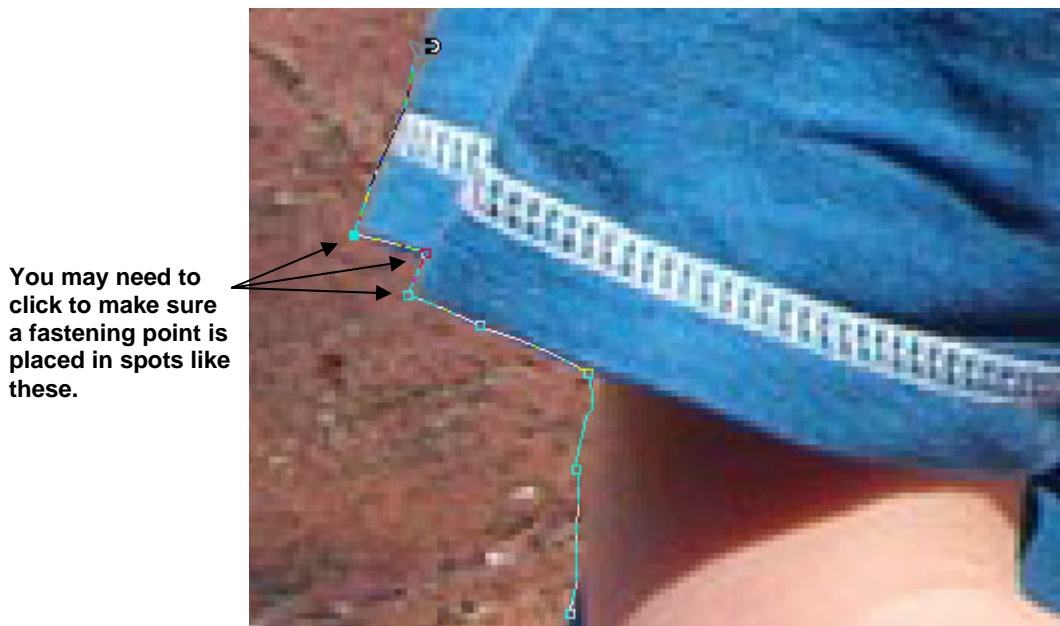
Note   Using this tool can be difficult at first for some people. If you have a hard time, try again and you'll soon get the hang of it.

8) If you accidentally get a fastening point where you don't want one, press **[Del]** to remove the last point placed (pressing **[Esc]** will cancel completely if needed so you can start over again). Don't worry if it's not too exact. We'll neaten up the selection later.

Unwanted fastening points can be easily removed. Press [Del] until you get back to the last good point and then continue making your selection.
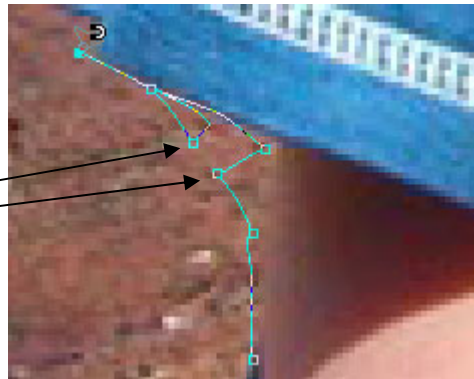
9) When you reach the edge of the window, hold down **[Space]** to switch to the hand tool. Then you can move the image, allowing you to continue selecting around the edge.

10) It can take a long time but it gets easier with practice. Continue tracing all the way around the outline of the boy until you reach the bottom of the picture.

Tracing along the bottom of the image won't give a very good selection since there is no obvious line to follow. While you are using the Magnetic Lasso tool you can temporarily select either of the other Lasso tools. Clicking while holding down **[Alt]** will temporarily engage the Polygonal Lasso tool. Dragging while holding down **[Alt]** will temporarily engage the regular Lasso tool.

11) Hold down **[Alt]** and click on the bottom right corner of the area we are selecting to temporarily turn on the Polygonal Lasso.
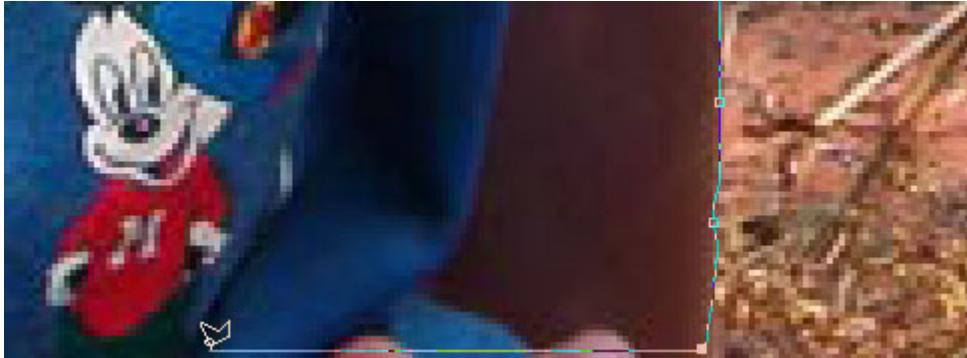
12) Move the mouse across to the bottom left corner and click to create a straight lined selection across the bottom (You can hold down **[Space]** and use the hand to move across).

13) You should now be back near your starting point. You can press **[Enter]** to close up the selection area or if you want to be more precise, you can move your mouse over your starting point and click when a small circle appears next to your mouse.

14) Zoom out to see the whole selection.

15) Leave the selection active (unless you want to go through all of that all over again)

5 - Selection Masks

Even using an advanced tool like the Magnetic Lasso won't always give you perfect results. You may still have unwanted bits selected or there may still be important bits missing from the selection. You could use **[Shift]** and **[Alt]** along with the lasso tools to perfect the selection but that could be a little tedious with a complex image.

A mask is generally used to hide something. In Photoshop, a selection mask is used to indicate the parts of the image that are not selected. You can edit and refine a selection mask using your standard painting and drawing tools. Selection masks allow you to adjust the selection using your painting tools which is both easier and more precise.

Exercise 8 – Editing a Selection Mask

16) Click the **Edit in Quick mask** icon on the **Tool Palette**.

The areas of the image that are not selected will now be shaded with a red colour (the mask).
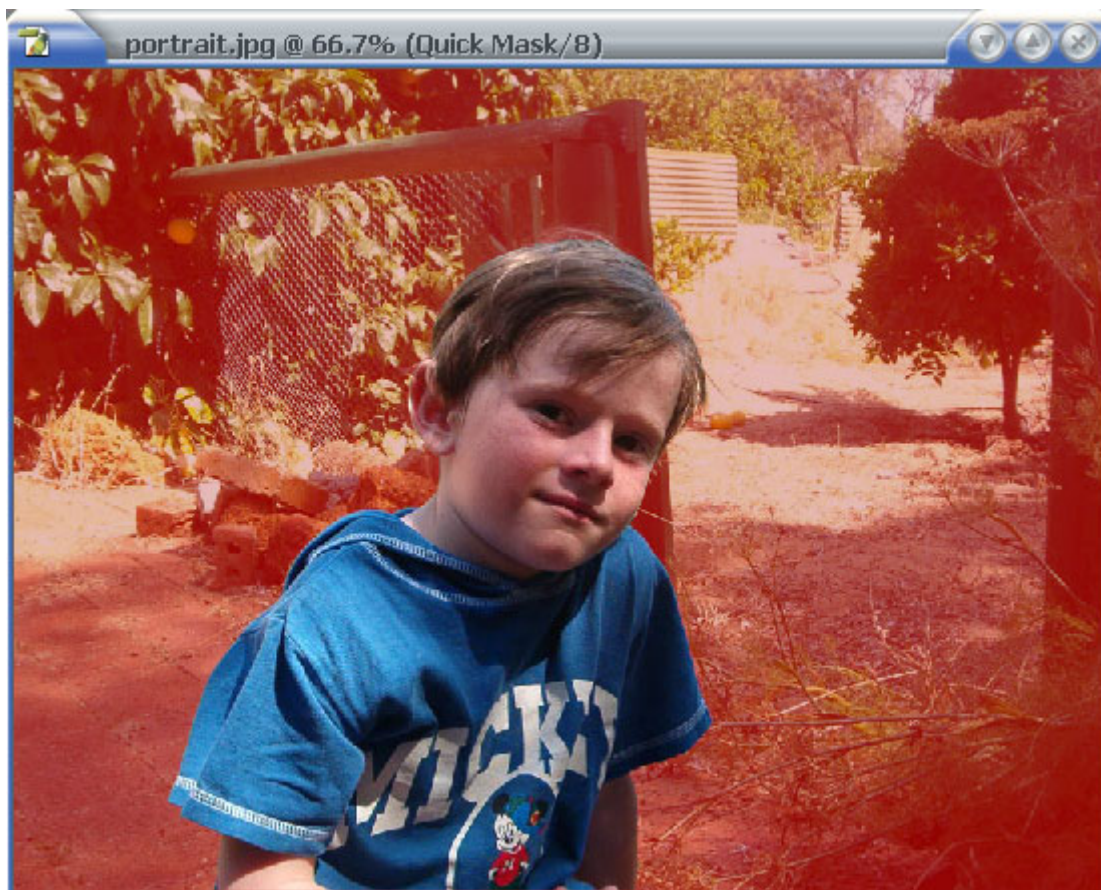
In some pictures, a red tinted mask might be difficult to see against the rest of the image but it can be set to any colour you want to make it easier to see. It's only for editing the selection and its colour will make no difference to the final image.

1) Display the **Channels Palette**. Remember that if a palette is hidden you can display it from the **Window** menu.

You will see that the quick mask has been added to the channels palette. It is shown in italic text to indicate that it is only a temporary channel.

2) Double click the **Quick Mask** channel in the list to show its options.
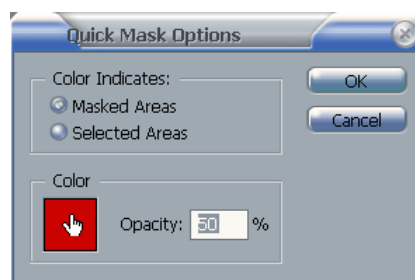
3) Click the **Color** box to display the **Colour Picker**. Change the colour to one that will be easier to see against the rest of the picture (such as green). If you need you can also change the opacity option to adjust how much of the image will be visible through the mask though 50% is usually a pretty good amount. Click **OK** to close the **Quick Mask Options**.

4) Select the **Brush** tool **[B]**. Make sure the brush opacity is set to 100%.
5) Set the background and foreground colour to their defaults **[D]**.

You can edit the mask by simply painting over it. Any parts that are painted over with black will add to the mask (add to the parts that <u>are not</u> selected). Any parts that are painted over with white will take away from the mask (add to the parts that <u>are</u> selected).

6) Paint a line over the unshaded part of the image.
7) Click in the **Edit in Standard Mode** icon to see the result.

→
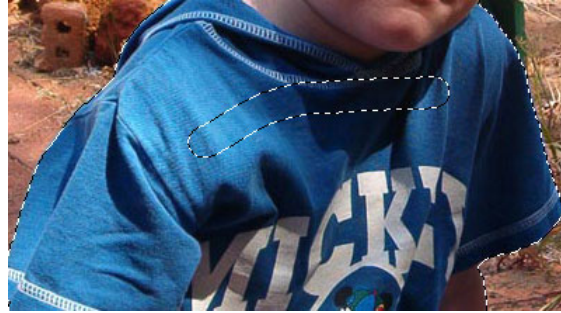
8) Return to **Quick Mask** mode. (you can press **[Q]** to switch between the two modes)
9) Swap the foreground and background colours **[X]** to make white your painting colour.
10) Paint over the line you just drew to remove it.
11) What follows is an exercise in painting. Zoom in on the image and neaten up the edges of the selection, using the following as a guide. Use your own judgement in selecting brushes and sizes.

In this example, part of the hair that should have been selected has been missed. Painting over it using white as a foreground colour will uncover it (using a smaller brush is a good idea).

In this example, part of the background that we don't want was selected. Painting over it using black as the foreground will cover it with the mask so that it won't be selected.

12) Return to **Standard Editing Mode [Q]**.
13) Save a copy of the image in Photoshop format **[Ctrl] [Shift] [S]** as *portrait.psd*.

Quick Mask Editing Tips

- It can help to switch to standard mode now and then to see if you've missed any bits as the selection marquee will make them easier to spot.
- If you make a mistake while painting on the mask, simply swap colours again **[X]** and paint back over the mistake.
- For any areas that you want to be slightly transparent in the final image (such as loose strands of hair), you can paint over them while the brush opacity is set to less than 100%. This will mean that those areas will only be partially selected and will end up being partially transparent. Just remember to change the opacity back to 100% before adjusting any more.
- Carefully tracing around the some parts of the edge of the mask with the brush tool can make the selection a little less jagged, since the brush tends to have a smooth edge. It can take a lot longer but it can make a big improvement to the finished result.

 →
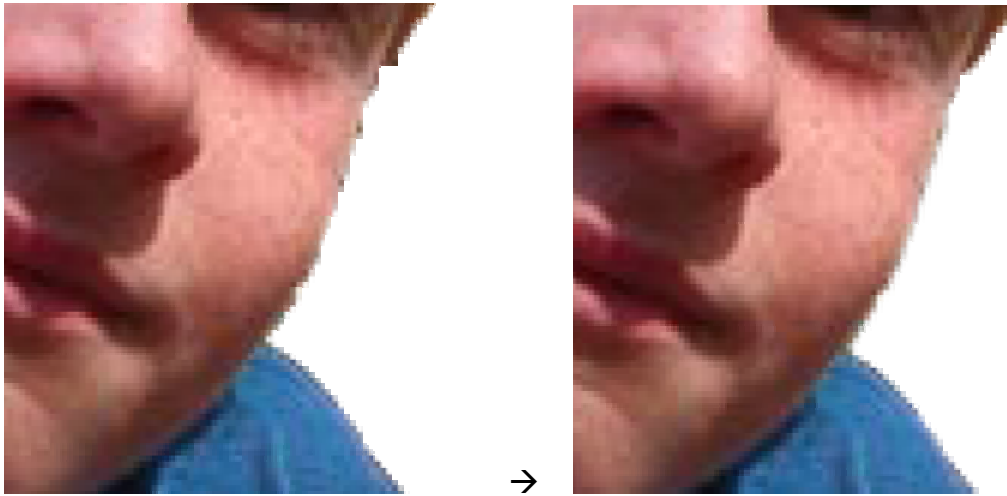
- Using a softer edged brush will result in the borders of the selection being softer. In this case we probably don't want that but in other cases that can be very effective.
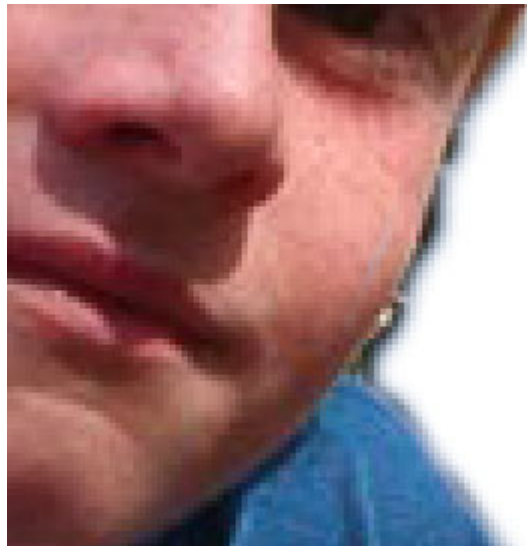
Exercise 9 –   Saving a Selection

If you've gone to all this effort to save a selection you won't want to lose it. We will make use of this selection in the Layers exercises so we'll save it for later.
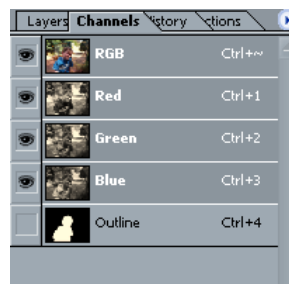
1) From the **Select** menu choose **Save Selection**.
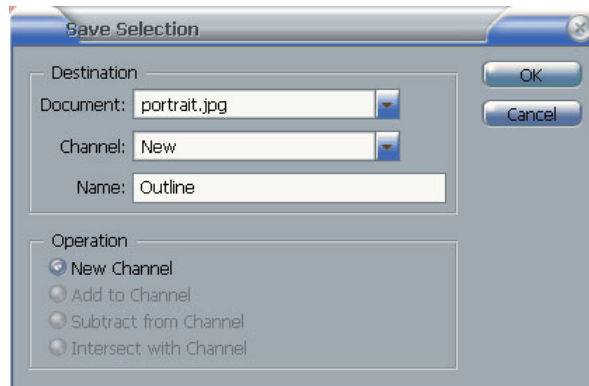
2) Enter *Outline* for the name of the selection and click **OK**.
3) Deselect the boy **[Ctrl] [D]**.
4) The saved selection is kept in the Channels. Check the **Channels Palette** to see the saved selection (channel).

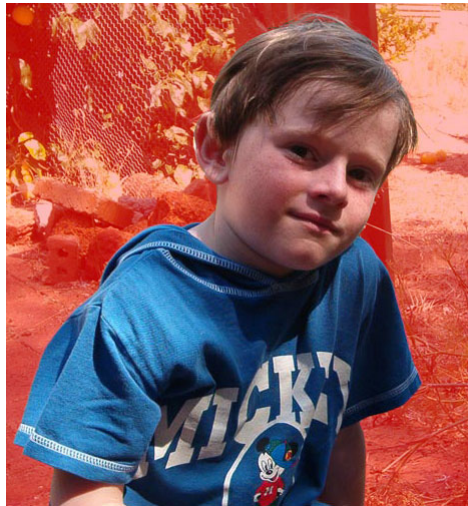5) Click on the *Outline* channel to select it. The image will now show the selection mask.

You can edit this directly by painting on it with black or white but it's a lot easier when you can still see the actual image.

6) Click on the blank square to the left of the *RBG* channel. This will make that channel visible.

You could now make changes to the saved selection the same as you did with the quick mask.

7) Click on the *RGB* channel to select it and click on the eye symbol next to the *Outline* channel to hide it.

To make use of the saved selection when you need it, you can go to the Select menu and choose Load Selection to display the options shown below, and then select the saved selection from the channel list. Another method is to hold down **[Ctrl]** and click the selection in the channels palette.
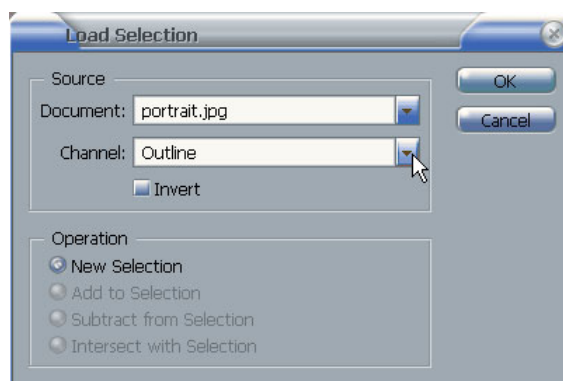

8) Try both methods just described for selecting the saved selection.

Note   Saved selections can't be kept in other file formats such as **JPEG** or **Bitmap** so saving the file as a **PSD** image is a good idea.

6 - Cropping and Resizing Images

Cropping an image refers to trimming the edges of an image to removes bits you don't need. It can be very handy when you want to correct a photo where the camera wasn't aimed straight or where you want to concentrate on a smaller section of the photo.

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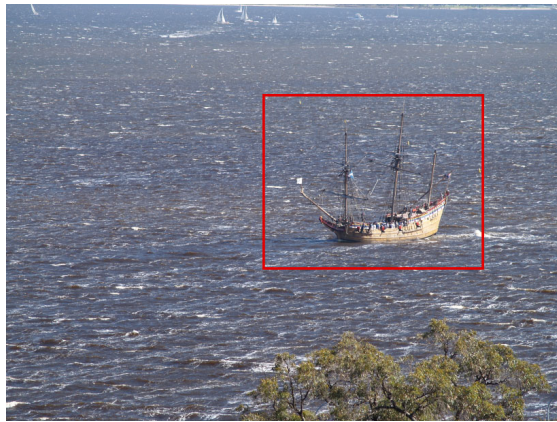
One way you can crop an image is to use adjust the size of the image canvas. Changing the image canvas to a smaller size will trim off the edges of the image to make the new size.

Another way is to Make a selection and then use the crop command on the image menu. This will trim off all the parts of the image outside the selected area.

The third way is to use the versatile crop tool. This tool allows you to carefully select the area of the image that will be kept before trimming off the rest.

Exercise 10 –   Adjusting the Canvas Size

1) Open the image *1-rose.jpg*.
2) Select **Canvas Size** from the **Image** menu or by right clicking on the bar across the top of the image.
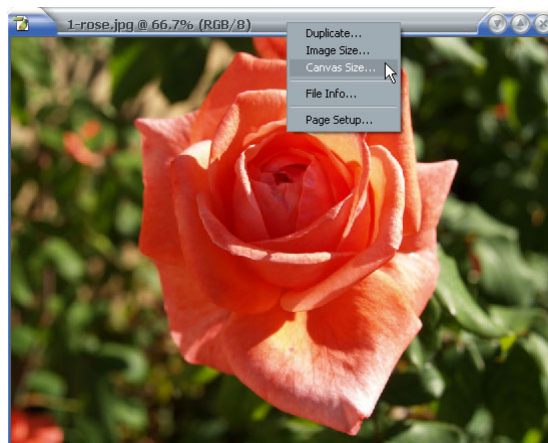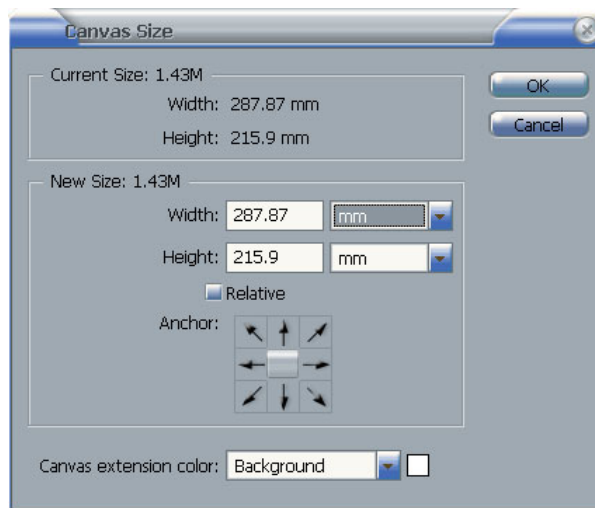
3) You can change the measurement units if required. Set the units to *mm* if that is not already selected.
4) Change both the height and width to *200*.
5) Click on the top-middle **Anchor** point. This will mean that the top, middle part of the image will be the point that all other changes are measured from. When the image is trimmed, the trimming will occur on the other three edges.
6) Check that the options appear as below and click **OK**.
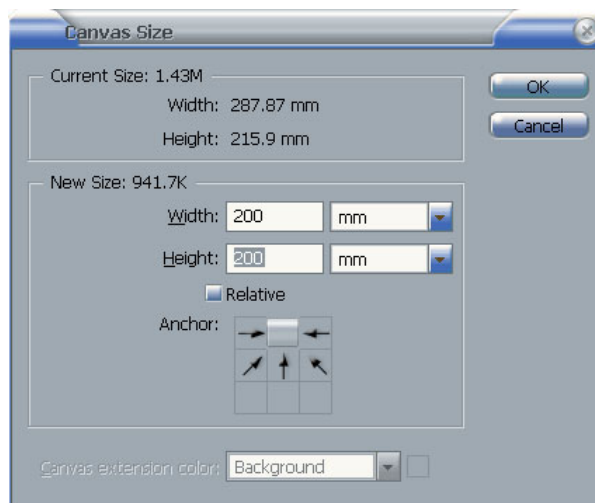
7) If a message like the one below appears, click **Proceed**.
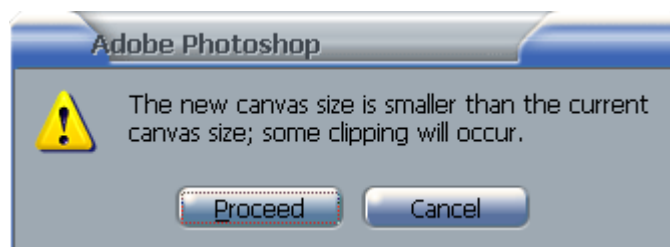
The image will now be trimmed to fit the new size.

8) Close the image without saving changes.

Note	You can also adjust the canvas to a larger size. The extra space that would be created around the image will be filled with your background colour (unless you are working with layers and have no background layer).

Exercise 11 – Cropping to a Selection

1) Open the *selections.psd* file.
2) Make a selection around the bottom car. It doesn't matter what type of selection you use. A rectangular marquee or a lasso selection would be equally effective since we're only using the selection to set the boundaries of what will be cropped.
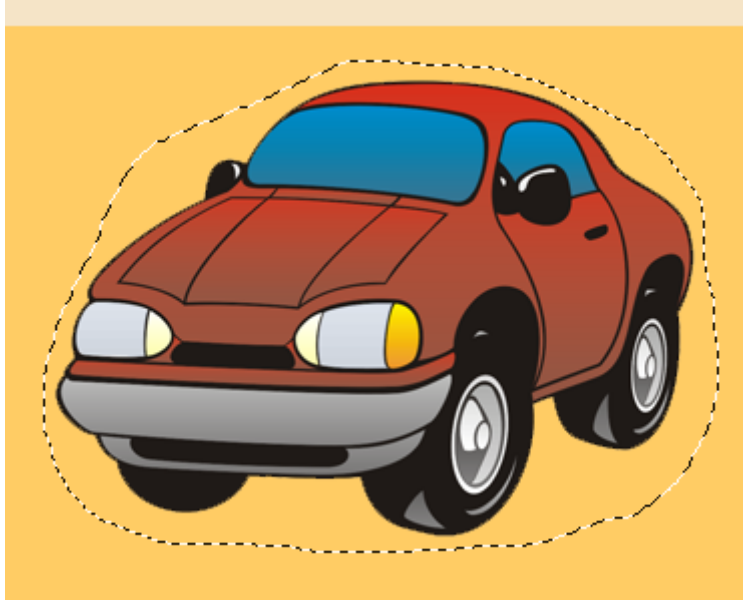
3) From the **Image** menu select **Crop**. The image will be trimmed to the edges of the selection.
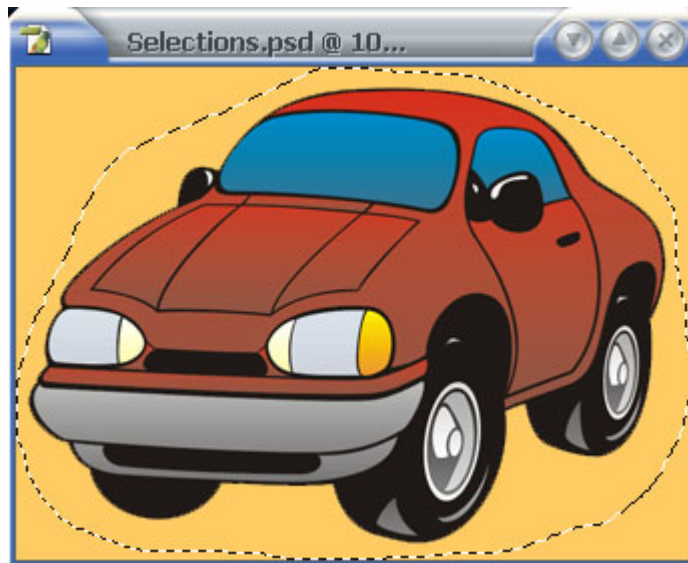
4) Deselect **[Ctrl] [D]** and then close the file without saving the changes.

Exercise 12 –   Using The Crop Tool

1) Open the portrait.psd file if it is not already open.
2) Select the **Crop** tool by clicking the icon on the **Tool Palette** 🔲 or by pressing **[C]**. Your mouse pointer will change shape when you move it over the image. 🔲

Look at the options in the Options Palette.

| Width: | | Height: | | Resolution: | | pixels/inch | ▾ |

The options shown above allow you to specify what the dimensions and resolution of the image will be after you crop. If you leave these options blank, the dimensions are set by you dragging and the resolution will be unchanged.

3) With the crop tool selected, drag a rectangular shaped area around the boy's head.

The picture is darkened around the area you selected to indicate what will be cropped. You can drag the small markers around the edge of adjust the cropped area

4) If necessary, resize the crop area so it is similar to the example above.
5) Move your mouse pointer outside the crop area and it will change in to an arrow shape. 🡒
   When your mouse pointer is outside the crop area you can drag to rotate the crop area. The centre of rotation is marked by a point inside the crop area ✛ (which you can drag to move).
   Drag outside the area, rotating the crop area to the angle shown below.
6) Drag inside the crop area to move it if necessary.

To complete the crop you either press **[Enter]** to complete the crop or **[Esc]** to cancel the crop.
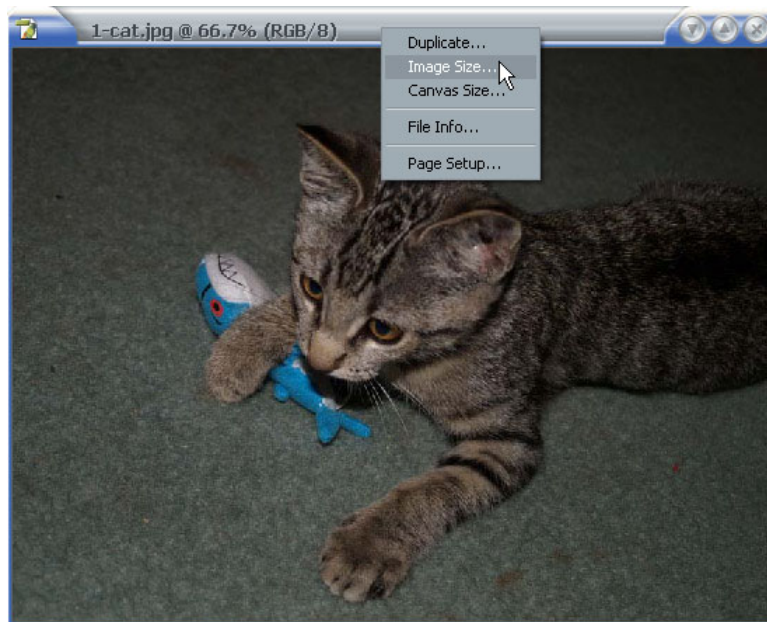
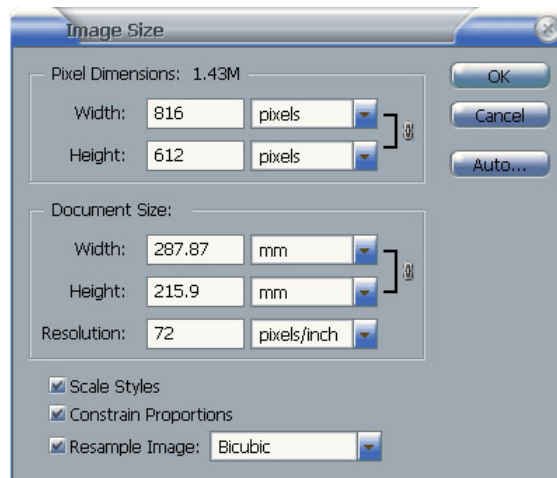7) Check that the crop area matches the example shown below and press **[Enter]** to complete the crop.

8) Undo the crop **[Ctrl] [Z]**.

Exercise 13 – Resizing an Image

1) Open the file *1-cat.jpg*.
2) Select **Image Size** from the **Image** menu or by right clicking on the bar across the top of the image.

The image size options will appear.

At the bottom you will see a **Constrain Proportions** option. As long as this is selected, height and width will be linked as indicated by the chains. This means that if you adjust the height, the width will change also to keep the image proportions. Changing the width will also change the height. It's best to keep this option on except in cases where you specifically want to stretch the image out of proportion.

The top section displays the image dimensions in pixel measurements which are useful if your image is going to be used on screen. The middle section shows the image dimensions in print measurements such as millimetres or inches which is useful if you intend to use the image for printing. It also shows the resolution which will determine the level of detail in the printed image. The examples on the following page show the effect of images at different resolutions.

Note Resolution will make no difference for images in a website since a monitor displays all images with the same resolution and only the pixel height and width of an image will vary.

**5cm × 5cm
300 Dots per inch
resolution**

591×591 pixels

**5cm × 5cm
50 Dots per inch
resolution**

98×98 pixels

**Same size but
less detailed
since the picture
is made up of
less pixels**

When an image is resized is it necessary for Photoshop to either add or remove pixels to make the new image size. This process of changing the pixels in an image is referred to as **Resampling**. Every time you resample an image, Photoshop is making guesses about what pixels need to be added or removed in the picture which means that the quality of the picture deteriorates each time you do it. Of course it is a necessary step in resizing an image but don't do it any more than you have to. If you need to resize an image that has already been resampled, it is best to use an original copy that was saved before any resampling took place. The following example illustrates this concept.

Both of these pictures are **197** pixels wide and **197** pixels high. The first one has a resolution of **100dpi** which makes it print at **5cm×5cm**. The second one has been resized to **2cm×2cm** without resampling. It still has the same number of pixels but they are in a smaller area at **250dpi**. The image prints smaller but is more detailed in that smaller area.

3) Tick the **Resample Image** option to turn it off. The top section will be unavailable. This will mean that you can change the printed size of the image and the resolution of the image will adjust so that no resampling takes place. I.e. no pixels will be added or removed from the image.

4) Change the resolution and the print size will change but the pixel dimensions shown up top will remain unchanged.

5) Change the document width or height and the resolution will change without affecting the pixel dimensions.

6) Turn resample image back on.

7) Hold down the **[Alt]** key and the **Cancel** button will temporarily change to a **Reset** button.

8) Click the Reset button to change the settings back to the way they were when you opened the Image Size options (this reset button is available in the same way in many other parts of Photoshop).

9) Set the **Resolution** to *300* and change the **Pixel Width** to *500*. Notice that the area above the pixel dimensions shows the estimated file size before and after the resampling.

Pixel Dimensions: 549.3K (was 1.43M)

| Width: | 500 | pixels |
| Height: | 375 | pixels |
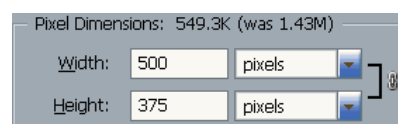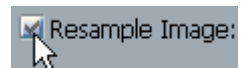
10) Click **OK** to make the change, resizing (and resampling) the image.

Exercise 14 – Checking Image Size

Photoshop provides a number of ways to indicate the size of an image.

1) From the **View** menu select **Print Size**. This gives an indication of how large the image will print. It should appear on the screen as approximately 42mm wide as that is the set print size, though different monitor sizes mean it's only a rough indication.

2) Go to 100% magnification **[Ctrl] [Alt] [0]**.

3) Look at the bottom left of the screen and you will see a section of the status bar which indicates the current file size. `Doc: 549.3K/549.3K` The reason for two numbers is that one is for the flattened image and one is for the image including layers (which you will learn about in the next section).

4) Click on the triangle to the right of the document size indicator. A menu appears allowing you to replace the document size display with one of several other options.
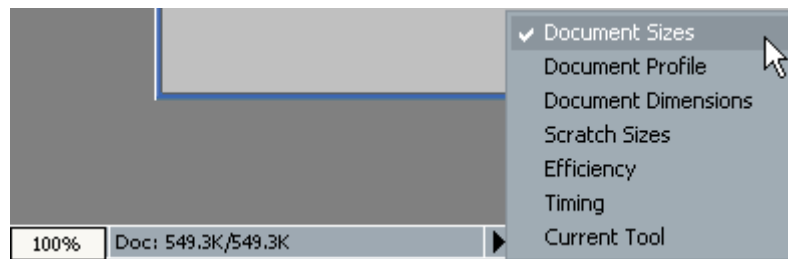
5) Each of the options is described below. Try each one.

|	
`Doc: 549.3K/549.3K` **Document Sizes**	Shows the estimated memory used by the current file.
`Untagged RGB` **Document Profile**	Shows the current document profile. Document profiles can be used to make the image display better suited to certain monitors, printers etc.
`42.33 mm x 31.75 mm` **Document Dimensions**	Shows the print size of the current file.
`Scr: 343.1M/956.0M` **Scratch Sizes**	The first number shows the amount of memory required by Photoshop for working with all currently open images. The second number shows the memory available to Photoshop. If the first number is larger than the second number then your computer has insufficient RAM and will begin to run slowly as Photoshop is forced to use your hard disk for temporary (and slower) storage.
`Eff: 100%` **Efficiency**	Indicates the amount of time Photoshop is actually performing tasks as opposed to reading/writing from disk. A number less than 100% indicates that Photoshop is spending too much time reading/writing to the disk hard disk due to insufficient memory.
`4.9s` **Timing**	The amount of time taken to complete the last operation. A very fast computer may frequently show 0.0s for all but the most complex tasks.
`Rectangular Marquee` **Current tool**	Name of the currently selected tool

6) Hold your mouse down on the document size indicator. A box will appear which indicated how much space on a page the image will take up if it's printed. This is based on the paper size set in the **Page Setup** options under the **File** menu. The example below shows how much space the cat picture would take up on an **A4** sheet.
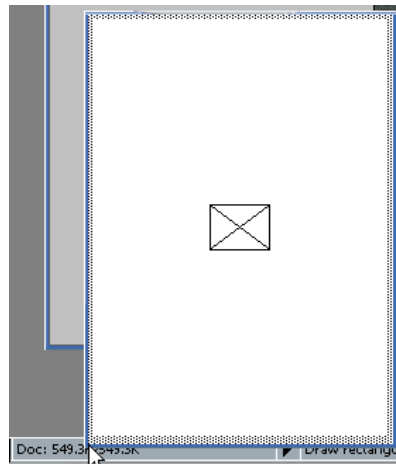
7) Hold down the **[Alt]** key and hold your mouse down on the document size indicator. Some useful information about the file size will appear.
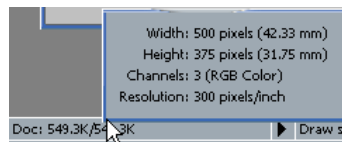
7 - Additional Selection Tips

- If you want to quickly adjust the size of a selection marquee, you can use the **Transform Selection** option on the **View** menu. Try it out by making a selection and selecting the **Transform Selection** option. You can then resize the selection in the same way that you resize a crop area with the crop tool.
- In the **Select** menu, try out some of the **Modify** options (such as expand which can increase the area covered by your selection).
- When you select an area, you can choose a **Feather** option from the **Options Palette** before making a selection or from the **Select** menu after making a selection. Feathering softens the edge of the selection. To test it out, try the following:
  - Select an area on an image.
  - From the **Select** menu choose **Feather [Alt] [Ctrl] [D]** and enter a feather amount of 20.
  - Press **[Ctrl] [Shift] [I]** to inverse the selection or select the **Inverse** option from the **Select** menu. Now everything outside the marquee will be selected, but the selection will have a feathered (soft) edge.
  - Press **[D]** the set your background colour to white.
  - Press **[Ctrl] [Delete]** to fill the area with your background colour and then deselect **[Ctrl] [D]**. You will see the effect of the feathered selection

Selection made without feathering   **Selection made with feathering**

- When you are using the crop tool, you can use the **[Shift]** key and the **[Alt]** key to modify your selection just as you can with the rectangular marquee tool

8 - Shortcuts Learned

Shortcut	Icon	Purpose
[M] or [Shift] [M]		Select a selection marquee.
[Ctrl] [H]		Show / hide extras (including selection marquees).
[Ctrl] [D]		Deselect a selection on the image.
[V]		Select the Move tool.
[L] or [Shift] [L]		Select the Lasso, Polygonal Lasso or Magnetic Lasso tool.
[Shift] [F5]		Show the fill dialog.
[W]		Select the Magic Wand tool.
[Q]		Switch between standard editing mode and quick mask mode.
[C]		Select the Crop tool.
[Ctrl] [Shift] [I]		Inverse selection.
[Alt] [Ctrl] [D]		Feather the selection.