



# S2 Manual Graphics

Graphic Technology

# MEASURING

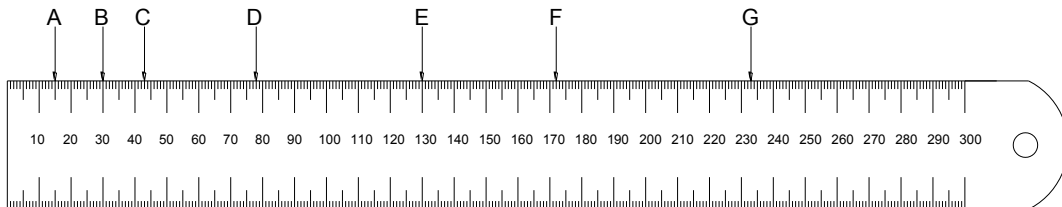
Throughout the school you will measure in many different units. Most of the school will measure in Centimetres (cm), however, in the Design and Technology department; we measure in Millimetres (mm).

Occasionally, some rulers you will use work in cm, therefore it is very important we are able to convert all measurements to mm.

$$\frac{\text{Units}}{1\text{cm}} = \frac{\text{Millimetres}}{10\text{mm}}$$

## TASK 1

Using what we have learned, read the millimetre ruler and identify the given values.

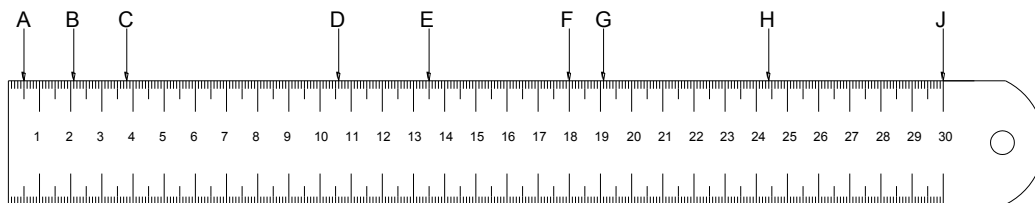


A ..... B ..... C ..... D .....

E ..... F ..... G .....

## TASK 2

Read the centimetre ruler and identify the given values. Write your answer down in mm.



A ..... B ..... C .....

D ..... E ..... F .....

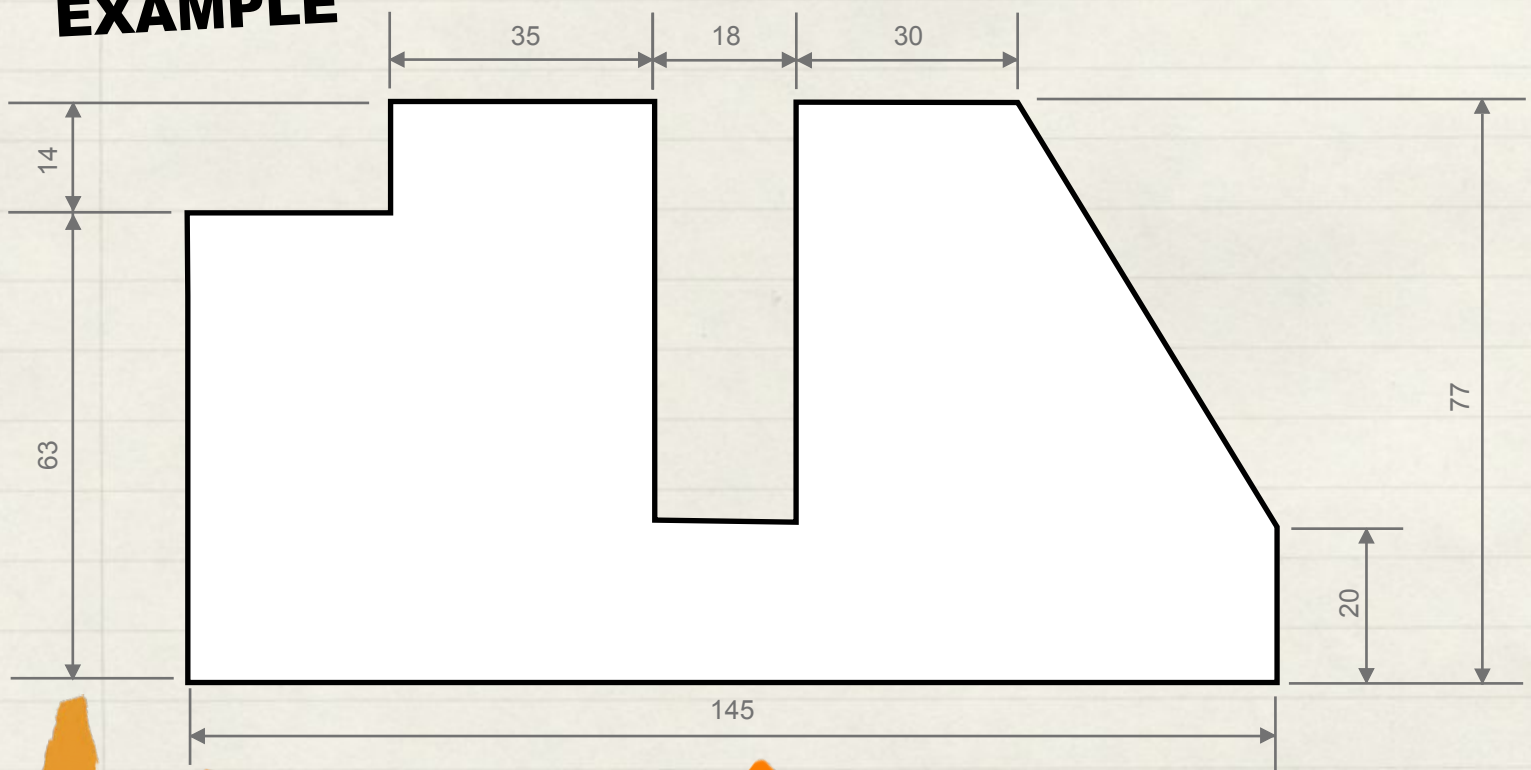
G ..... H ..... J .....

# MEASURING

Dimensions are essential in most production and technical drawings because they enable an engineer or builder to manufacture products and construct buildings accurately.

You will be required to show some dimensions on drawings you complete in any units or assessments. Learn the conventions and rules for dimensioning shown on this page and practice them in your work.

## EXAMPLE



Leader Lines never touch the drawing.  
A gap should be left to avoid confusing the leader line with the outline of the drawing.

Dimension value in the middle of the dimension line.

Arrowheads should be small and slim, with the point of the arrowhead touching the projection lines.

## Dimensioning Rules

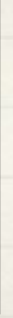
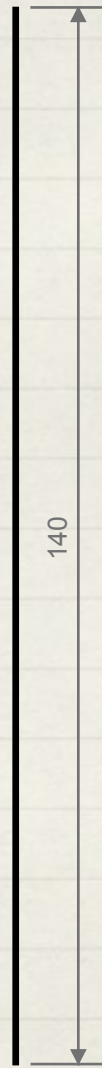
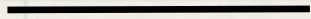
- Each dimension should be shown once.
- The dimension value should be placed above or to the left of the dimension line
- Always measure in millimetres.

# MEASUREMENT

## TASK 1

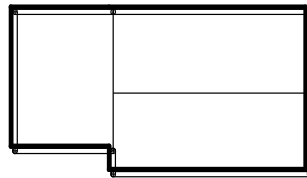
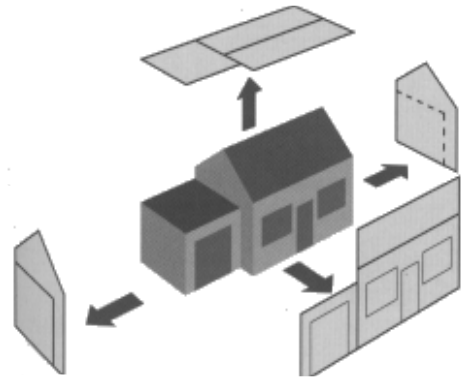
Using the standards and dimensioning techniques we have learned, measure accurately and fully dimension the following lines on the page. Two examples are given.

**Remember:** think about leader lines, small arrow heads, and accuracy.

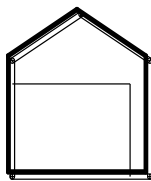


# ORTHOGRAPHIC DRAWING

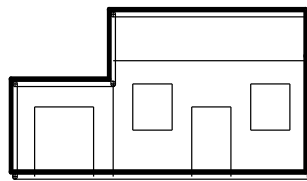
Orthographic drawing is a 2 Dimensional drawing of a 3 Dimensional object.



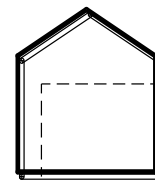
Plan



End Elevation

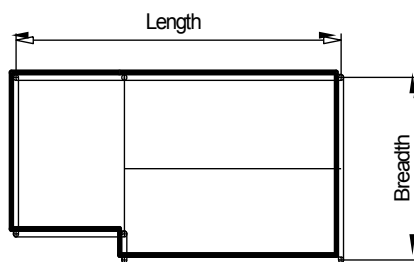


Elevation

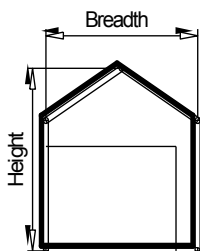


End Elevation

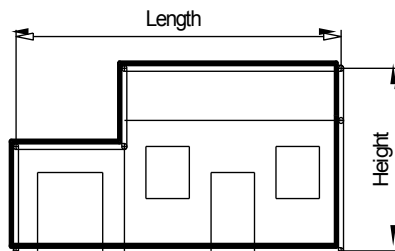
Orthographic drawings show different dimensions of an object that wouldn't necessarily be seen on a 3D view;



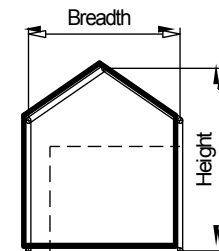
Plan



End Elevation



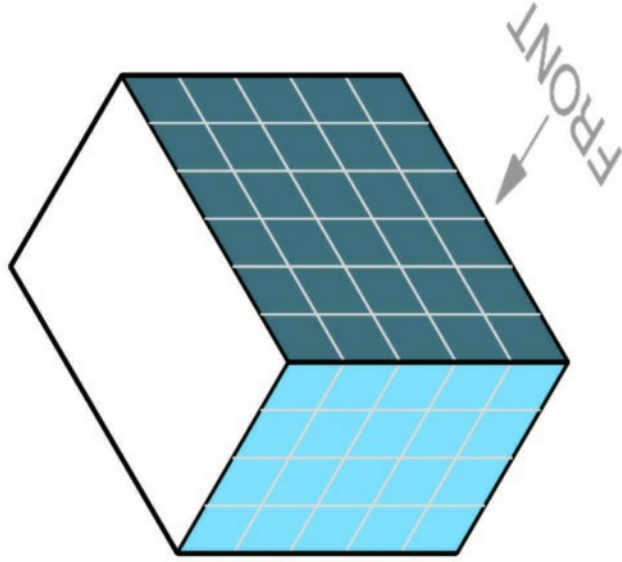
Elevation



End Elevation

# ORTHOGRAPHIC SKETCHING

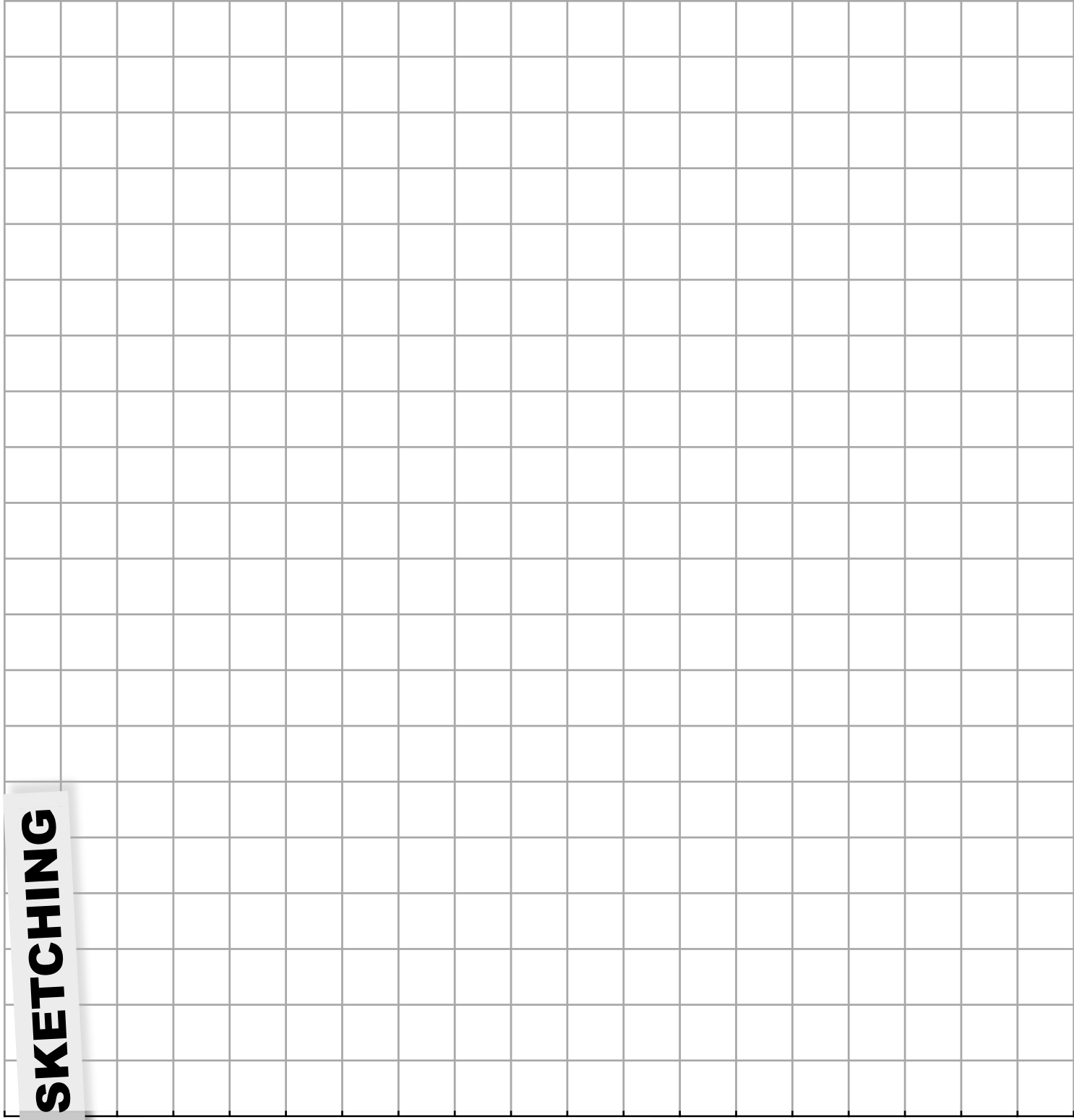
## BLOCK 1



PROJECTION	1	2	3	4	5
LINE QUALITY	1	2	3	4	5
ACCURACY	1	2	3	4	5

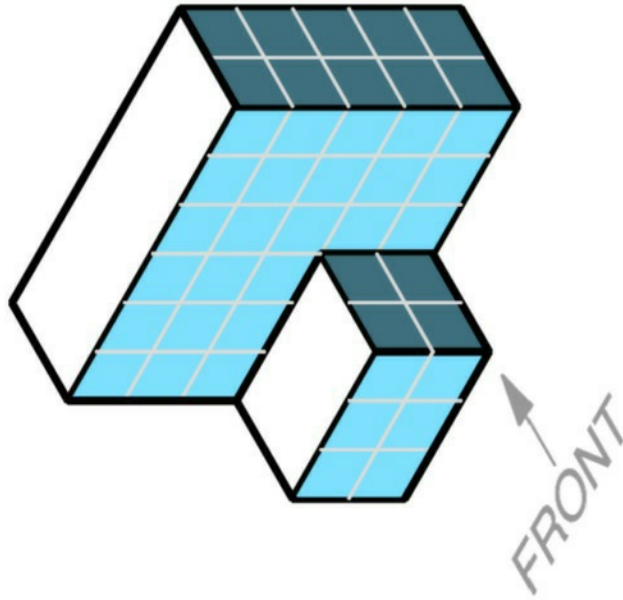
NAME: \_\_\_\_\_

CLASS: \_\_\_\_\_



# ORTHOGRAPHIC SKETCHING

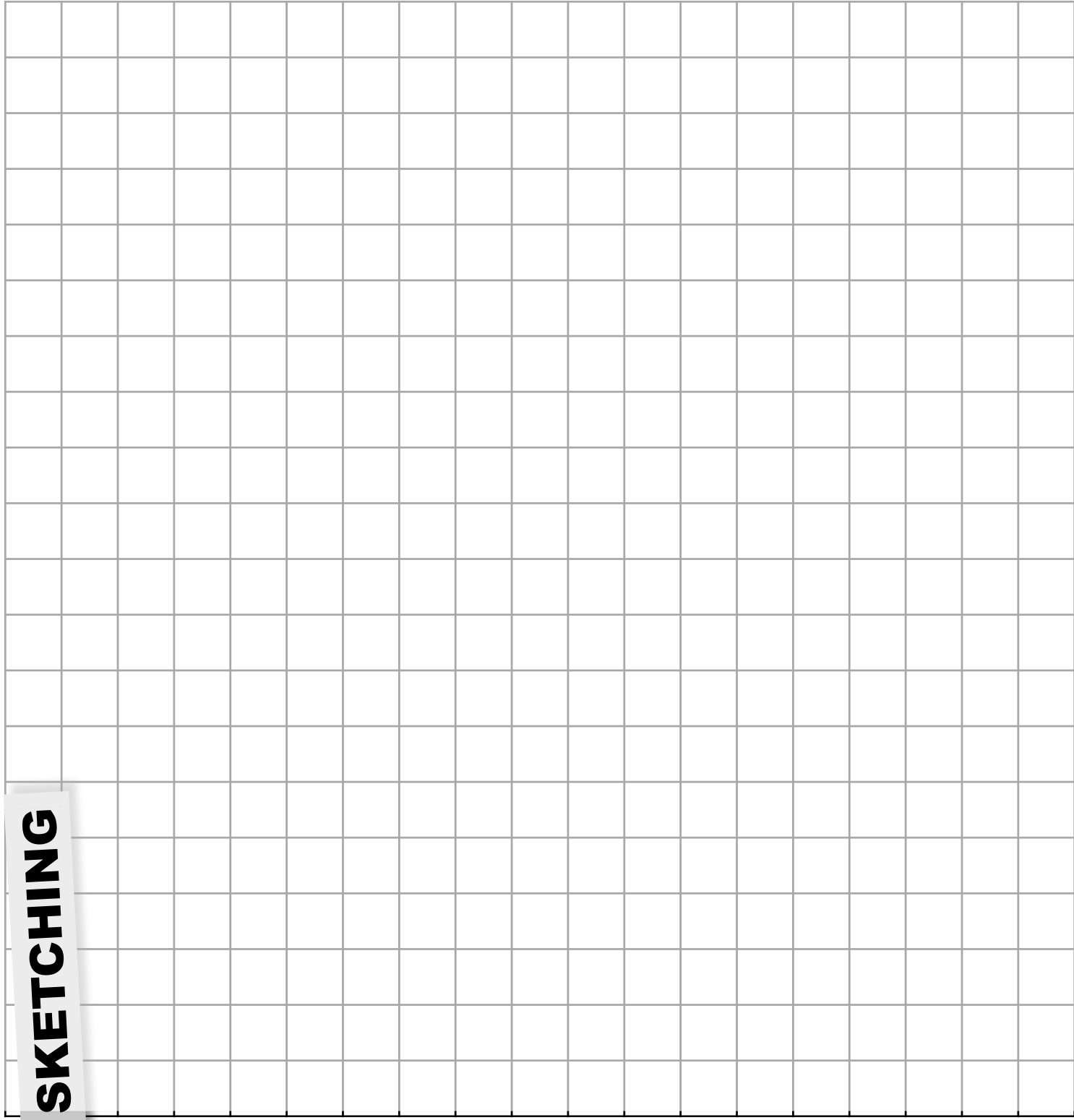
## BLOCK 3



PROJECTION	1	2	3	4	5
LINE QUALITY	1	2	3	4	5
ACCURACY	1	2	3	4	5

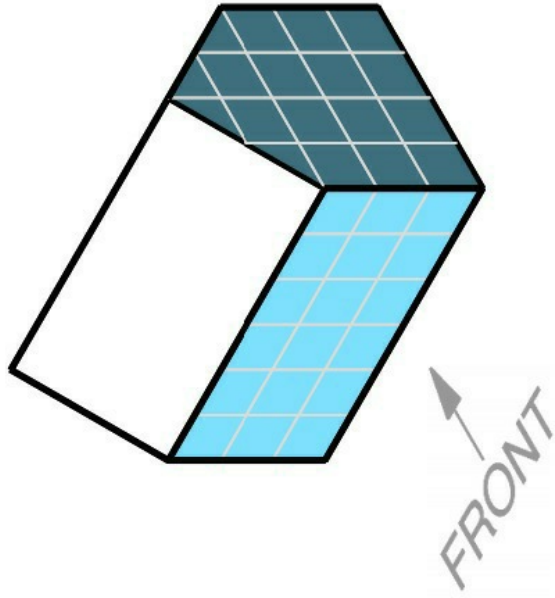
NAME: \_\_\_\_\_

CLASS: \_\_\_\_\_



# ORTHOGRAPHIC SKETCHING

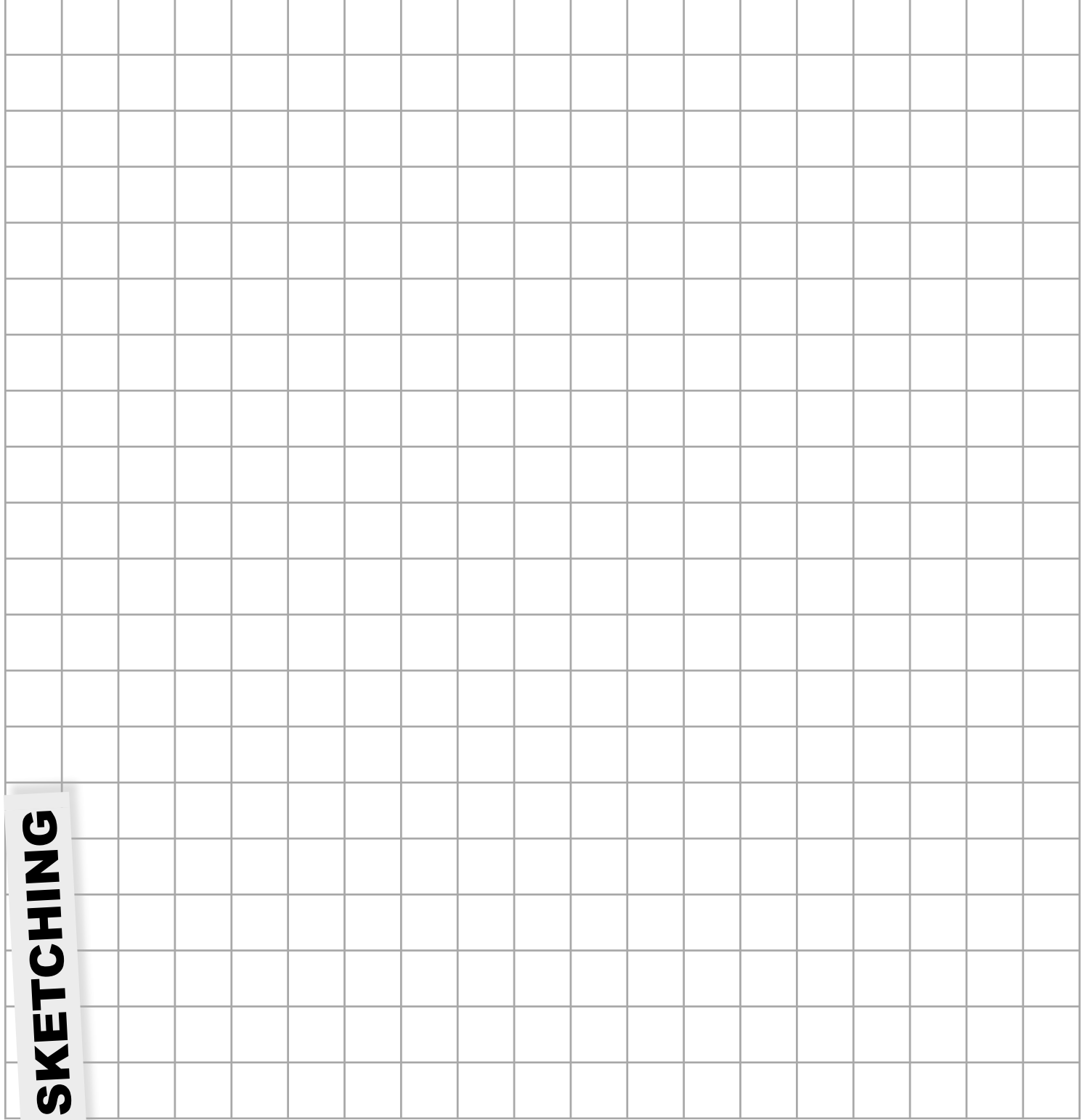
## BLOCK 8



PROJECTION	1	2	3	4	5
LINE QUALITY	1	2	3	4	5
ACCURACY	1	2	3	4	5

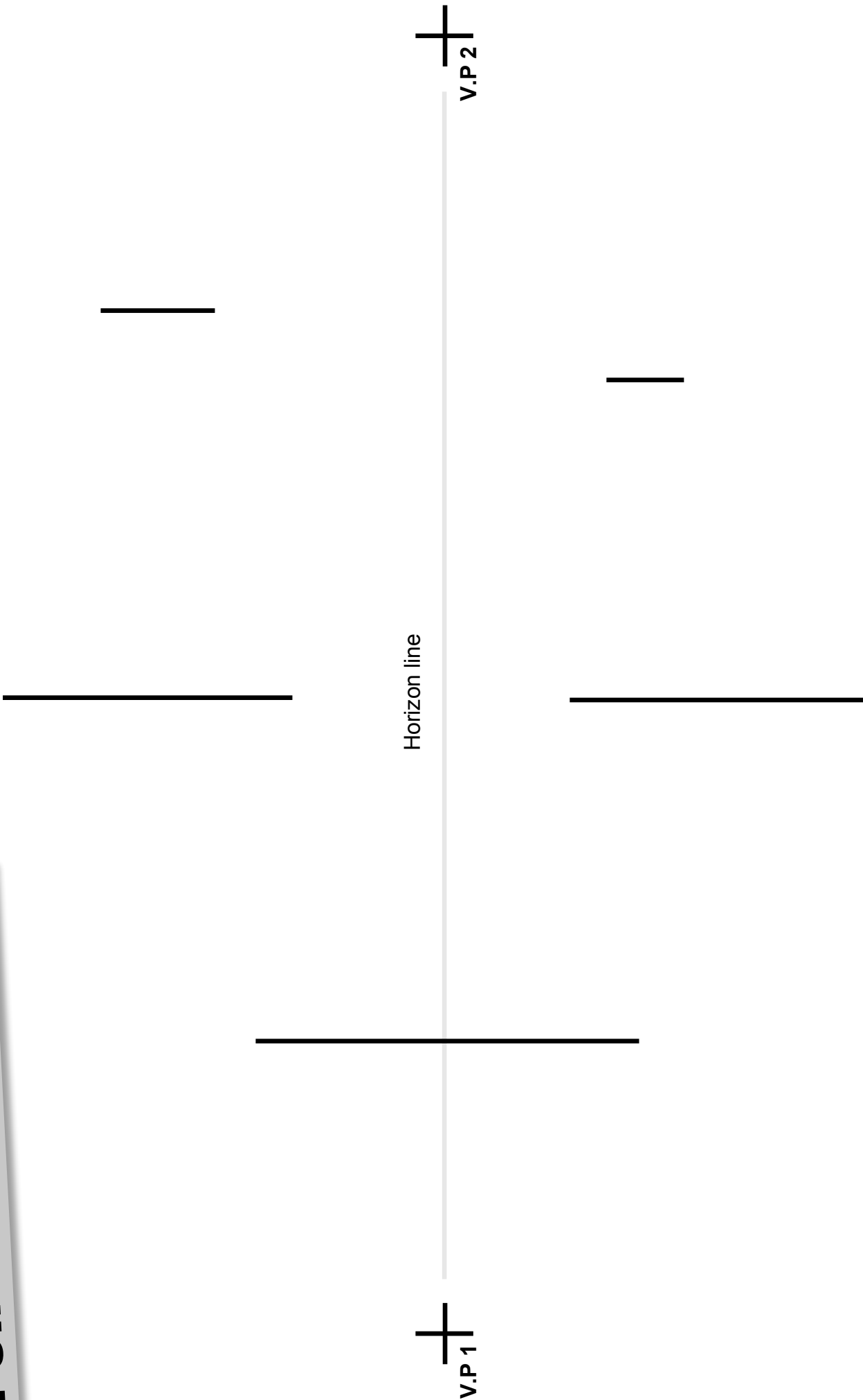
NAME: \_\_\_\_\_

CLASS: \_\_\_\_\_

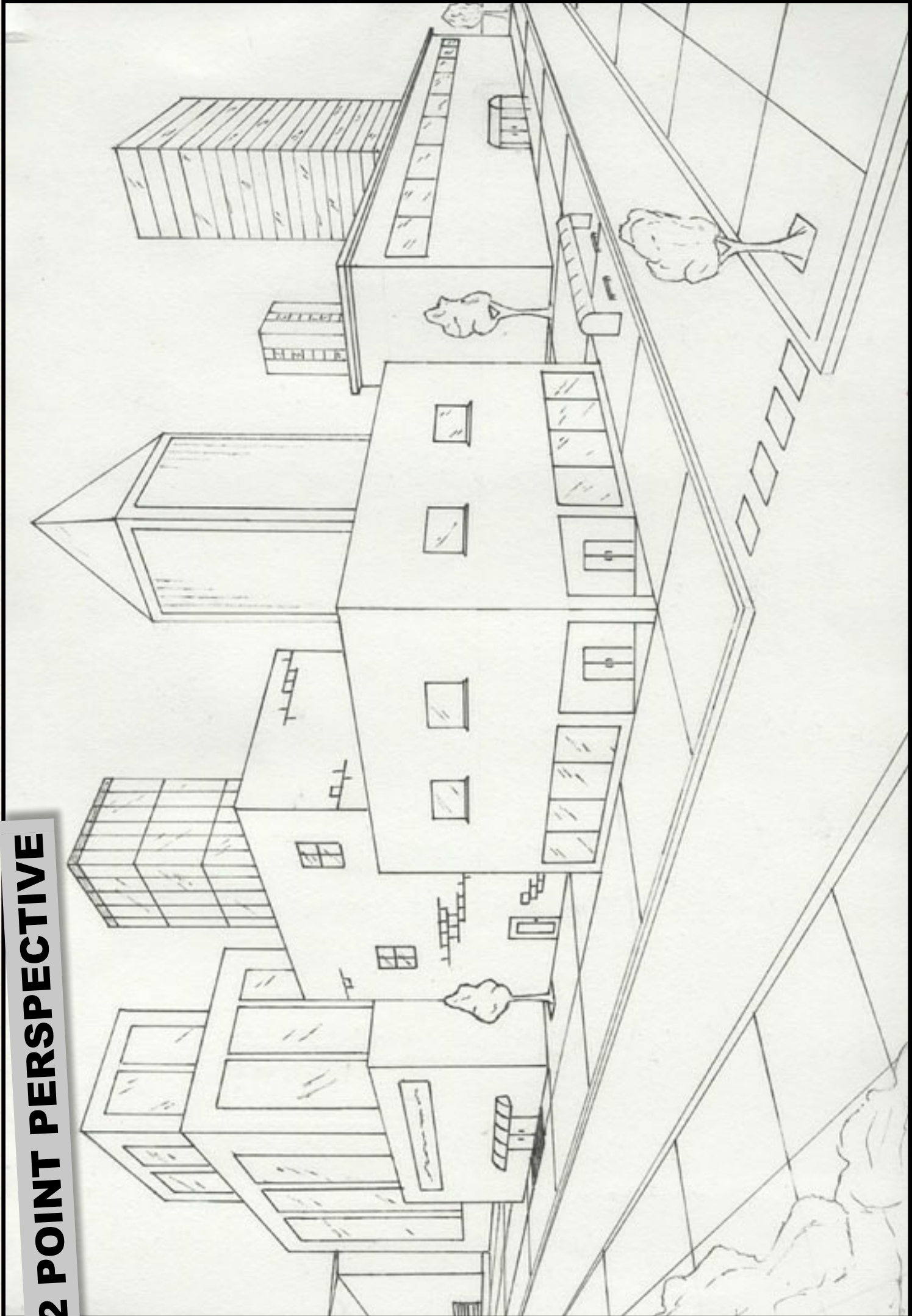




# 2 POINT PERSPECTIVE



**2 POINT PERSPECTIVE**



# 2 POINT PERSPECTIVE

STREET VIEW

# COLOUR THEORY

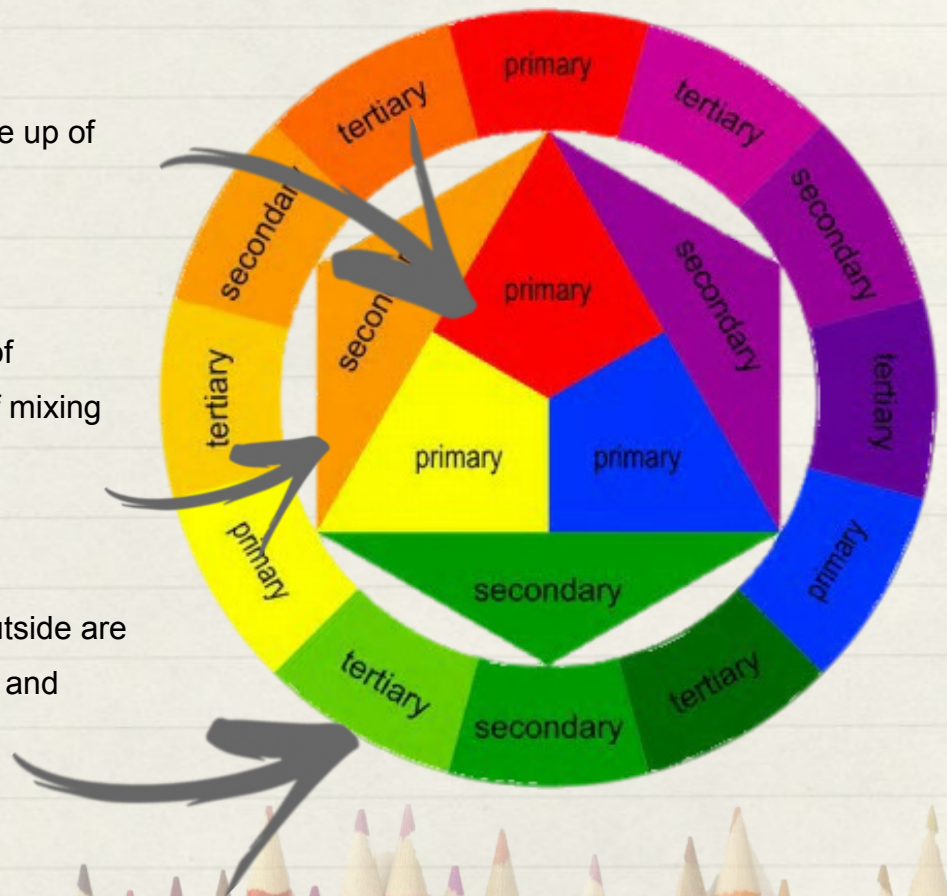
The knowledge of colour is an important part of Graphic Communication, as we must be able to understand the significance and purpose of the colour wheel and understand the relationship between colours.

The colour wheel demonstrates the relationship between colours and is split up into three sections, **PRIMARY**, **SECONDARY** and **TERTIARY** colours.

The triangle in the centre is made up of **Primary** colours

The next three are made up of **Secondary** colours; the result of mixing two Primary colours together.

Finally the colours around the outside are **Tertiary**; a mixture of Primary and Secondary colours.



# COLOUR THEORY

Colours can be separated into different categories;

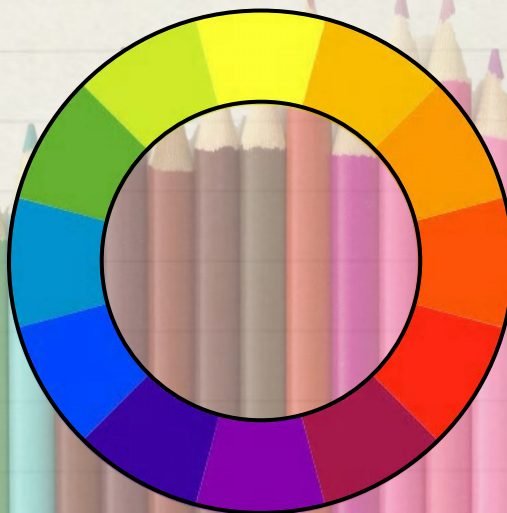
- Warm and Cool colours
- Harmonising and Contrasting

- ☉ Warm colours, **Yellow**, **Red** and **Orange** are colours which give a feeling of warmth, an example of this can be found on taps to identify warm water.
- ☉ Cool colours, **Blue**, **Green** and **Violet** do the opposite and give a feeling of coldness, again it can be seen on taps to identify cold water.
- ☉ **Harmony** is created when colours close on the colour wheel are used together. It is an effective way of using colour to blend with the background or another object.
- ☉ **Contrast** is created when there are two colours opposite on the colour wheel. It is an effective way of using colour to make objects stand out from the background or other objects.

**Contrasting Colours**



**Harmonising Colours**



# COLOUR THEORY

**TONE** is the word used to describe how intense a colour is. A weak tone is a very light colour and a strong tone is a very strong colour.

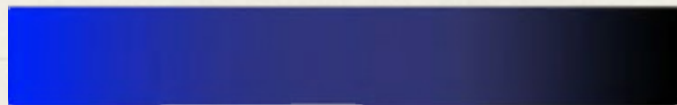
## Flat Tones



Weak Tone

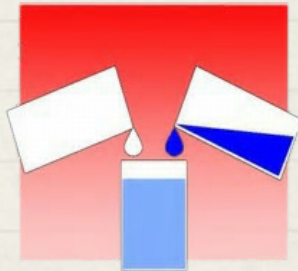
Strong Tone

## Graded Tones

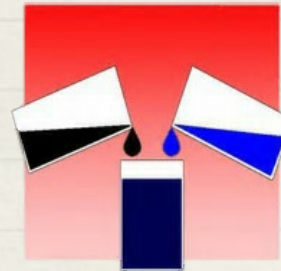


The tone of a colour can be changed by adding white or black.

Adding white  
creates a  
TINT

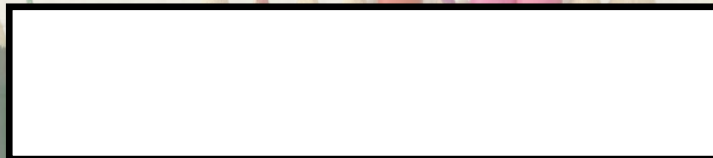


Adding black  
creates a  
SHADE

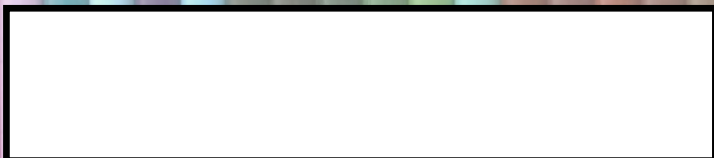


## TASK 1

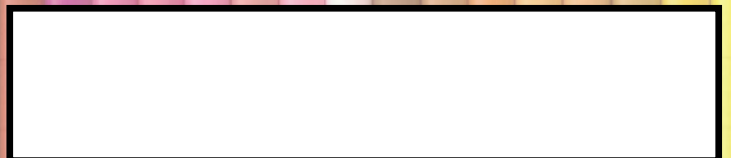
Using what you have learned from class demonstrations; Practice using colour, tone and texture to render a wooden, plastic and metal effect.



Wood



Plastic

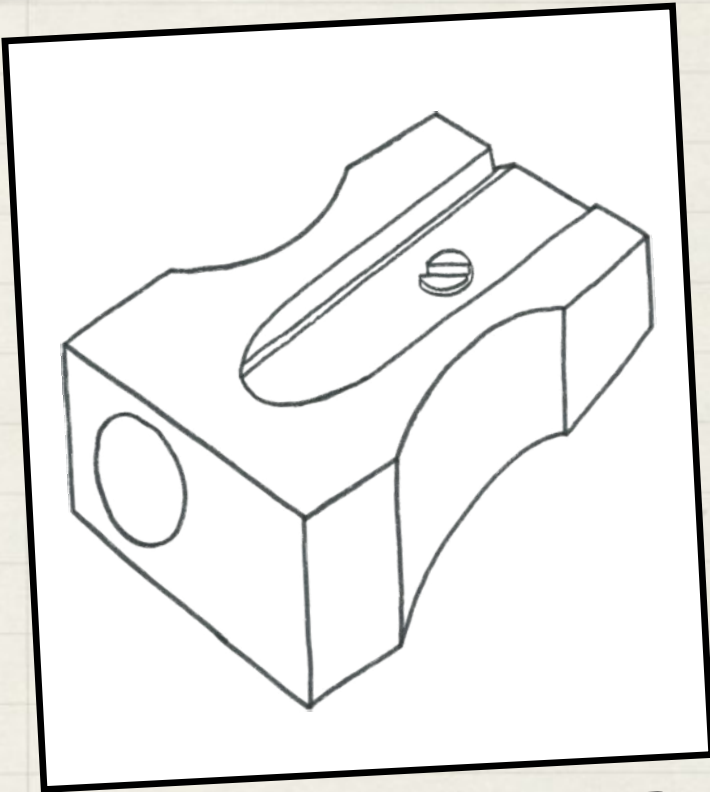


Metal

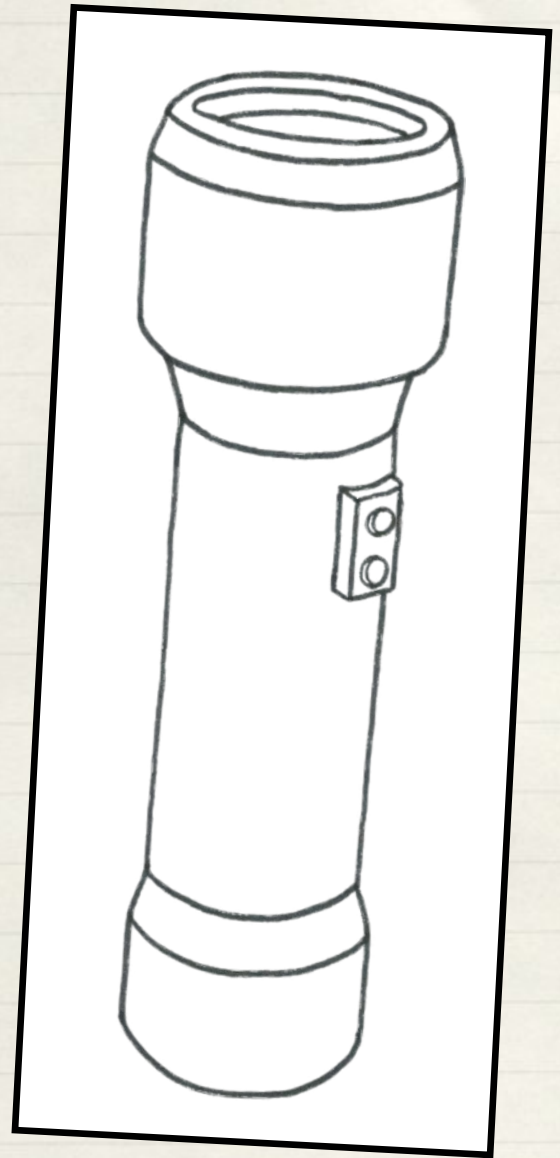
# RENDERING

Using the rendering techniques we have already developed, Render the following objects in their specific material.

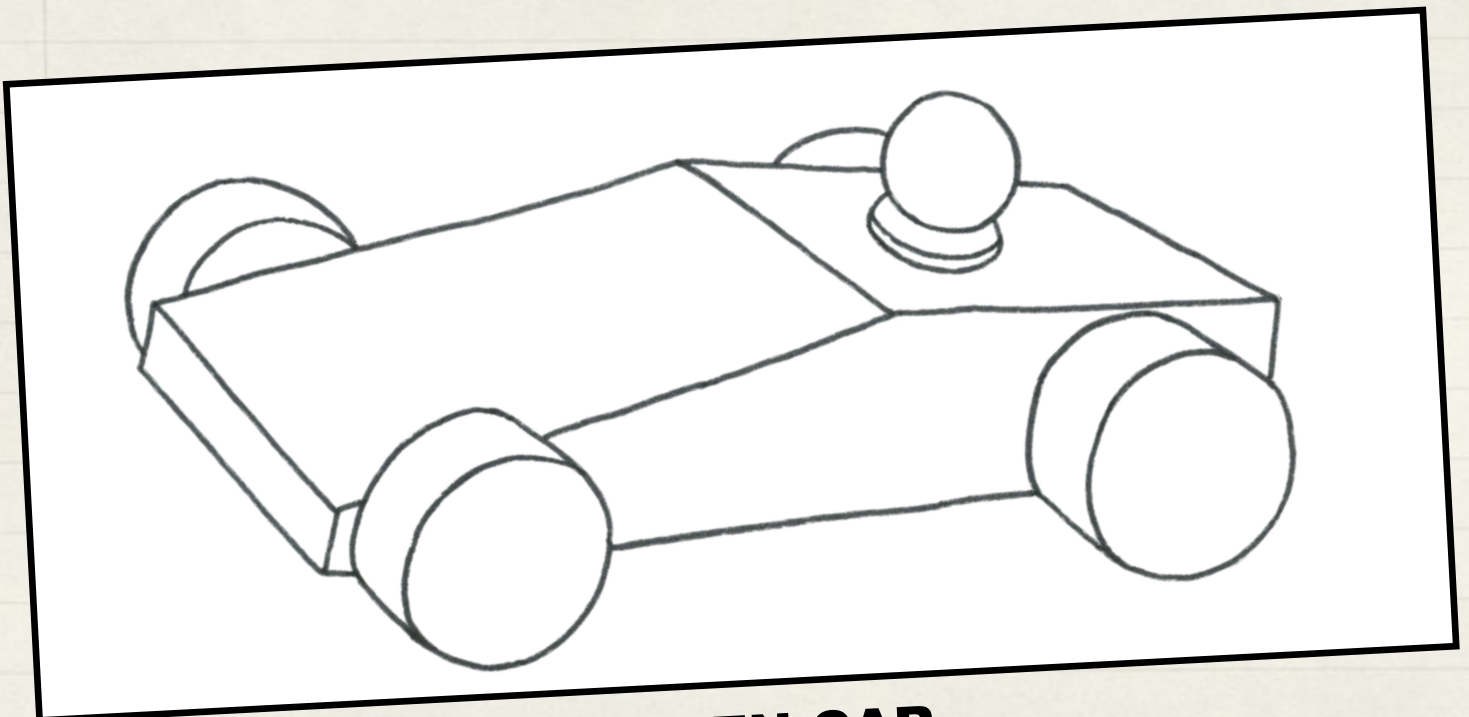
**Remember:** think about light, tone and texture.



**METAL SHARPENER**



**PLASTIC TORCH**



**WOODEN CAR**

# DESK TOP PUBLISHING

## Title Text

Eh... The title. It names the article... What can we say...



## Drop Cap

Signifies the start of the article

## Body Text

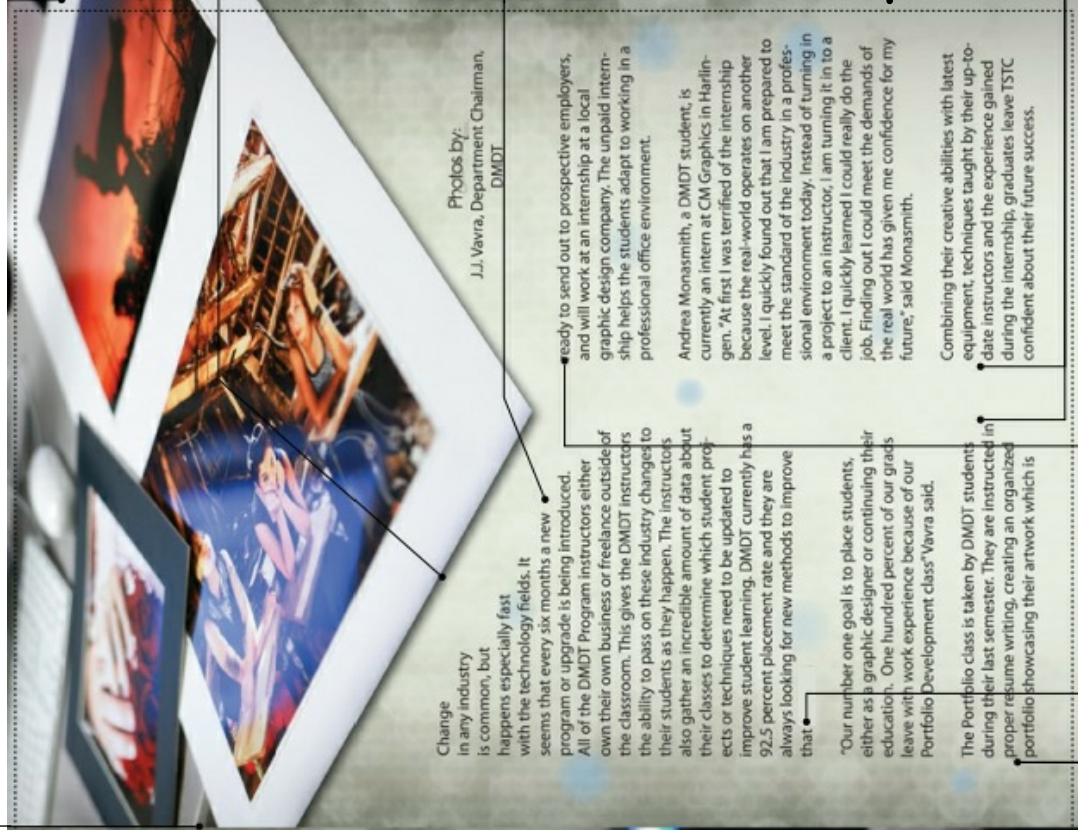
The main article text

## Depth of Field

Okay, really a photography technique, but many DTP packages can now edit images to add the effect. Images have one point of focus, drawing the eye and creating depth.

## Centre Fold

If a double page spread, it needs a fold point...



## Bleed

An image that extends beyond the boundary of the page.

## Drop Shadow

A shadow added under an image or graphic to create depth within a layout.

## Text Wrap

Text wrapped to the shape of an image. This can create unity between text and the image, showing they are related.

## Margin

Area around a document.

## Gutter

The space between two columns.

## Left Aligned

Text or graphic aligned to the left...

## Orphan

A stray word, sitting on its own.

## Widow

A stray item of text carrying over from the previous column.



# Architecture meets modern art

The first woman to win the Pritzker Prize for Architecture in its 26 year history, ZAHA HADID (1950-) has defined a radically new approach to architecture.

Zaha Hadid was single-minded from an early age. Born in 1950 in Baghdad, she grew up in a very different Iraq from the one we know today. The Iraq of her childhood was a liberal, secular, western-focused country with a fast-growing economy that flourished until the Ba'ath party took power in 1963, and where her bourgeois intellectual family played a leading role. Hadid's father was a politician, economist and industrialist, a co-founder of the Iraqi National Democratic and a leader of the Iraqi Progressive Democratic Parties. Hadid saw no reason why she

should not be equally ambitious. Female role models were plentiful in liberal Iraq, but in architecture, female role models anywhere, let alone in the Middle East, were thin on the ground in the 1950s and 1960s.

Hadid's architecture defies its own solidity. Short of creating actual forms that morph and change shape – still the stuff of science fiction – Hadid creates the solid apparatus to make us perceive space as if it morphs and changes as we pass through. Perhaps wisely, she talks little about theory. Noticeably, and uncharacteristically diplomatically, she has declined to comment on the situation in Iraq.

This does not mean that they are merely exercises in architectural form. Her



obsession with shadow and ambiguity is deeply rooted in Islamic architectural tradition, while its fluid, open nature is a politically charged response to increasingly fortified and undemocratic modern urban landscapes.

Cincinnati silenced all those who said Zaha Hadid's architecture was impossible to build. And the ideas developed for Cincinnati were already being refined in other large-scale projects, such as the MAXXI Contemporary Arts Centre in Rome (due to open next year), the BMW Central Building in Leipzig and Pheno Science Centre in Wolfsburg (both projects in Germany and opened in 2005). Crucially, Cincinnati gave Hadid the confidence to win a stream of commissions for: a ferry terminal in Salerno, Italy; a high-speed train station in Montpellier, Opera Houses in Dubai and Guangzhou, a performing arts centre in Abu Dhabi, private residences in Moscow and the USA as well as major master-planning projects in Bilbao, Spain and the Middle East. Even Hadid has recently completed Maris Centre, a cancer care centre in Kiready in Scotland.

This modest project marks the beginning of a plethora of UK based work, including a transport museum in Glasgow, a gallery for the Architecture Foundation in London, a mixed-use development in Hoxton Square and the London 2012 Olympic Aquatics Centre. Undoubtedly, Hadid has cemented her reputation as one of the world's most exciting and significant contemporary architects.

Guangzhou, China  
House of Culture,  
China. 2003-ongoing  
on site

Z car is a concept project which could be used for road transport. The design includes a variety of functional furniture and limited edition pieces. The car is currently on display at the Design Museum in London.

Abu Dhabi, United Arab Emirates  
The Opera Office Tower, Dubai, UAE. 2007-ongoing current project



Fun Fearless Female

# Jessie J... Superstar Rising

She's penned hits for Justin, been compared to Pink and scooped a best newcomer nod at the Brits. Meet our new girl crush

**S**he's the latest singer to come out of the UK and is following hot on the heels of former Brit talent Leona Lewis, Florence and The Machine and Adele.

Born Jenika Eleanore Cressick, the 23-year-old has already scored a number one hit with *Down*, which followed her 2010 hit *Do It Like a Dude* (a song that was originally written for Rihanna). And before she started collaborating with her boss, she was a song writer, co-writing Miley Cyrus' hit *Purty in de A:Z* and writing tracks with Justin Timberlake. Her debut album is called *Who You Are*.

#### HOW DID YOU GET STARTED?

When I was 16, I auditioned for a girl group. They signed a solo record deal when I was 17, but the label went bankrupt two weeks before my release. So I went to the US to see what songwriting opportunities I could get. That's the short version!

#### SO IT'S BEEN NON-STOP SINCE THEN!

Yeah, ever since I was in college. I've just been travelling round the world. I feel like I've had a 10-year career in a year.

#### HAS FAME CHANGED YOU?

I think everyone changes. As you grow older, you form different

things about yourself. In all the different situations and from meeting different people, you form different relationships. I don't think I've changed the world, I think I've become more aware of who I am and what I want to be and do.

#### IS IT TRUE YOU SUFFERED A MINOR STROKE AT 18?

Yeah, I had an adolescent migraine which is classed as a minor stroke and it was a really horrible time. But to be honest, I'm kind of glad I went through that. It really kind of deflected my perspective and taught me that you can't take life for granted. You have to just try and look after yourself as much as possible.

#### YOU HAVE WRITTEN SOME FANTASTIC TUNES FOR THE LIKES OF ALICIA KEYS AND MILEY CYRUS. HOW DID YOU COME TO DO THAT?

My songs that I started writing weren't getting me. And so I started picking songs and the first song that I ever gave away was Miley Cyrus' *Purty in de A:Z*.

#### WHO DO YOU WANT TO WORK WITH IN THE FUTURE?

I'd love to work with Prince, I'd love to work with Pink. I'd love to work with Jay-Z. I'd love to work with D. Train.

#### WHAT HAS BEEN THE MOST MEMORABLE MOMENT OF YOUR CAREER SO FAR?

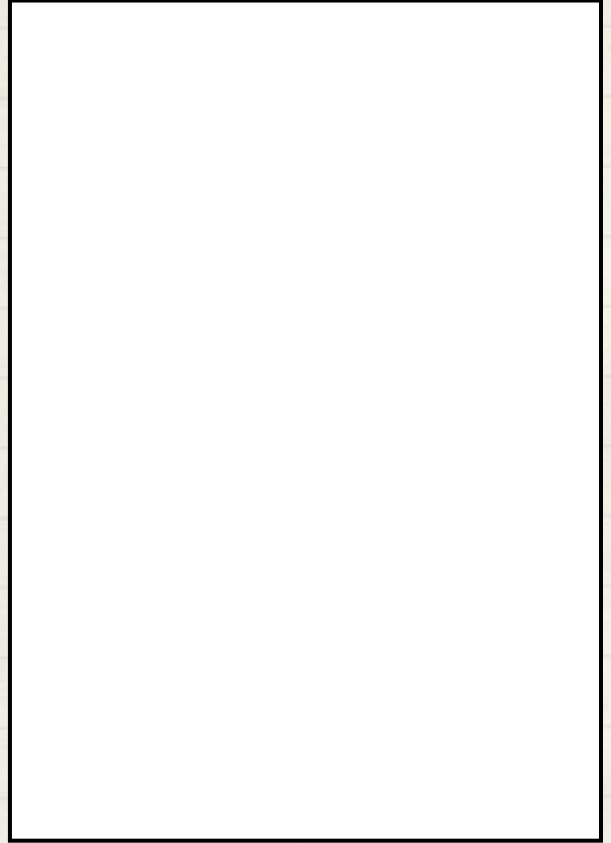
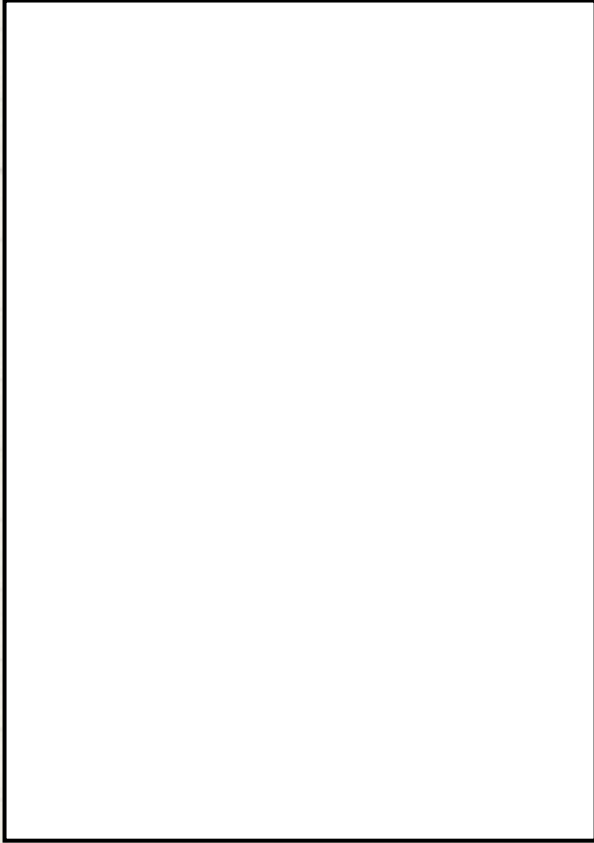
The moment I was told I'd had one million views of my video for *Do It Like a Dude* online was amazing. You know, I couldn't ask for a more loyal fanbase. But in this business, every day is something new and I've just got to keep working hard. Who needs sleep? ■





# DESK TOP PUBLISHING

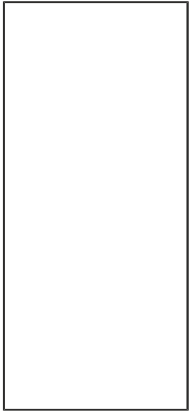
Considering the DTP terms you have identified and discussed as a class, create three different thumbnail sketches for your own magazine articles.



# DESK TOP PUBLISHING

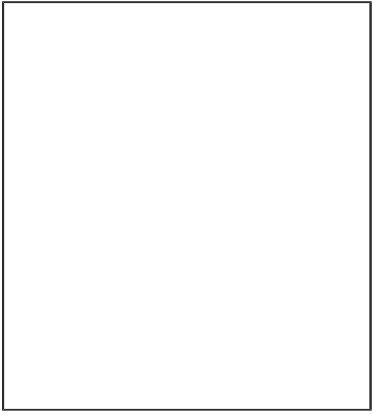
You now have to produce a desk top published page which promotes one of the projects (display stand, tip box, sweetie holder or clock) that you have made. It is better to choose the item that you have made as you now know what it looks like. You can use a photograph of the item, the model, the image created on inventor, or the model you made using cardboard and neoprene. Look at the examples below. (but yours will be better!) It should be planned on an A4/A5 sheet before it is put on to computer. You must use the "ANATOMY OF A PAGE" to help you plan it. It should include the "PAGE STRUCTURE", "PAGE CONTENTS" and other "DESK TOP PUBLISHING" terms.





PLAN

X

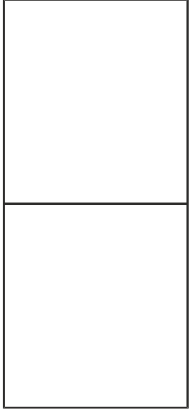


ELEVATION

X

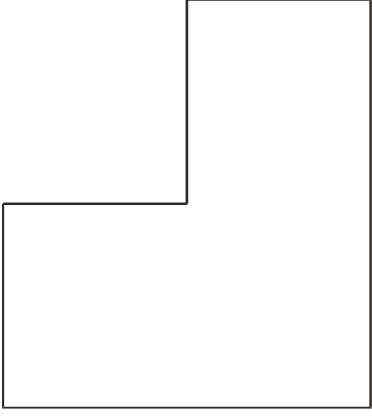


END ELEVATION



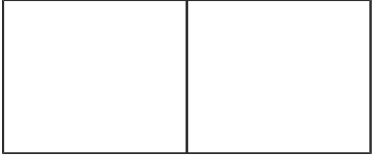
PLAN

X



ELEVATION

X

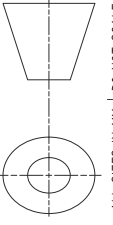


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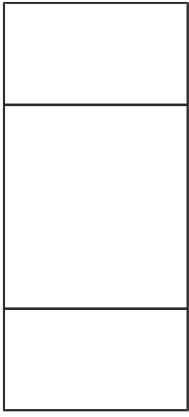


Complete manual isometric drawing  
 Complete CAD model to create isometric drawing  
 Dimension an isometric drawing to BS8888

DRAWING TITLE	ISOMETRIC PRACTICE 1 & 2		
PROJECT TITLE	PICTORIAL TECHNICAL GRAPHICS		
DRAWN BY			
COURSE	N5 GRAPHIC COMMUNICATION		
SCHOOL			
SCALE	1:1	@A3	
DATE			
SHEET	1	/	6

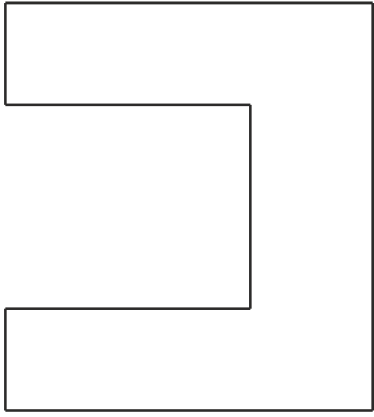


ALL SIZES IN MM | DO NOT SCALE



PLAN

X



ELEVATION

X



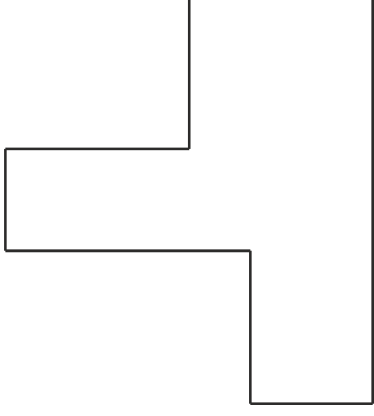
END ELEVATION

X



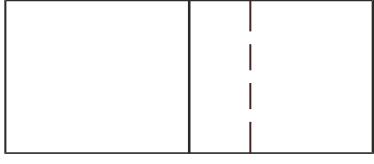
PLAN

X



ELEVATION

X



END ELEVATION

X

Complete manual isometric drawing  
Complete CAD model to create isometric drawing  
Dimension an isometric drawing to BS8888

DRAWING TITLE	ISOMETRIC PRACTICE 3 & 4		
PROJECT TITLE	PICTORIAL TECHNICAL GRAPHICS		
DRAWN BY			
COURSE	N5 GRAPHIC COMMUNICATION		
SCHOOL			
SCALE	1:1	@A3	
DATE			
SHEET	2	/	6

ALL SIZES IN MM | DO NOT SCALE