

# DESIGN AND TECHNOLOGY BASELINE TEST - MARKING SCHEME

WORLD ASSOCIATION OF TECHNOLOGY TEACHERS

<https://www.facebook.com/groups/254963448192823/>

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**SURNAME**

*This test paper, should be set for pupils entering secondary school, within the first month of the start the course.*

**FORENAME(S)**

*Design and Technology Departments, will need to develop a scale, so that the marks awarded for the paper, can be converted to match the marking and assessment policy of the school (e.g. 0 to 9 grading system).*

**SCHOOL**

**GROUP TEACHER**

## 30 MINUTES ALLOWED

### Equipment required for this examination:

- normal writing and drawing instruments
  - a calculator
  - a compass
  - coloured pencils

### Instructions to candidates:

- Use a ball-point pen for writing. Use a pencil / pen for drawing.
- Answer **all** questions.
- You must answer the questions in the spaces provided.
- Do all rough work in this book. Cross through any work that you do not want to be marked.

### Information

- The marks awarded for question are displayed.
- The maximum mark for this paper is 40.

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# ACCURATE DRAWING AND MEASUREMENTS

Read the questions on the left hand side of the page and answer on the right.

## QUESTIONS / INSTRUCTIONS

## YOUR ANSWERS

1. Print your name in **BLOCK CAPITALS**, between two faint parallel, straight, horizontal lines, 10mm apart.

YOUR NAME

(4 marks)

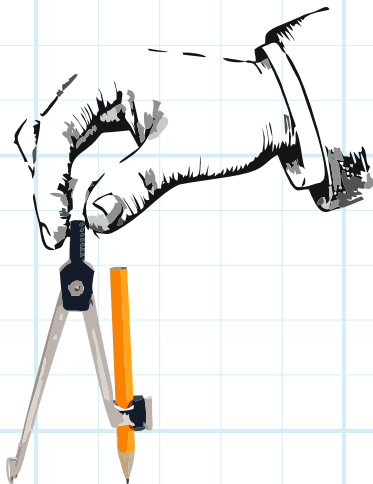
1 mark for 2 lines drawn relatively horizontal

2 marks for two lines accurately drawn

Up to 2 additional marks for printing in **BLOCK CAPITALS**

Subtract a mark for not printing the pupils own name

2. Using a compass, draw a circle with the radius of 25mm.



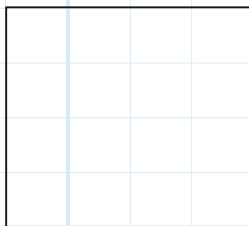
(4 marks)

1 mark for a circle reasonably drawn, but not the correct measurement.

2 - 3 marks for a circle well drawn and close to 25mm radius.

4 marks only awarded, for an accurately drawn circle.

3a. Using a ruler, draw a square with 40mm sides.



3b. Carefully shade the square. Starting with dark on the left and gradually getting lighter, to the right.

(4 marks)

1 mark for a square but not the correct measurement.

2 marks for an accurate square, correct measurement.

1 further mark for good shading but not dark to light in shade.

2 further marks for accurate shading, including dark to light gradient.

**PICTURE INSERT FOR QUESTION 4**

**A**

**LOTUS SPORT**



**B**

**RALEIGH 'CHOPPER'**



**C**

**WALKING MACHINE**



## ANALYSING A PRODUCT

**4a. Which of the bicycles A, B or C is the oldest? LETTER: \_\_\_\_\_**  
**(1 mark)**

**Why do you think it is the oldest? (3 marks)**

**1 mark** for the correct identification of 'C', as the oldest bicycle.

**1 additional mark** for limited reasoning.

**2 additional marks** for a reasonable explanation

**3 additional marks** awarded for a well reasoned and explained answer.

**PLEASE NOTE:** even if the wrong bicycle is identified as the oldest, up to 3 marks can be awarded for the reasoning, if detailed and well justified.

**4b. Which of the bicycles A, B or C is the most interesting. LETTER: \_\_\_\_\_**  
**(1 mark)**

**Why do you think it is the most interesting? (3 marks)**

**1 mark** for a bicycle being identified.

**1 additional mark** for limited reasoning.

**2 additional marks** for a reasonable explanation.

**3 additional marks** awarded for a well reasoned and explained answer.

**4c. Describe ONE improvement you could make to ONE of the bicycles.**  
**(4 marks)**

**LETTER: \_\_\_\_\_**

**1 mark** for identifying a bicycle.

**1 additional mark** for limited description.

**2 additional marks** for a reasonable description, of a realistic improvement.

**3 additional marks** awarded for a detailed description of a realistic improvement.

# CALCULATING

(Calculators permitted)

**INSTRUCTIONS:** In the shaded boxes are example questions and answers. You must answer the questions in the unshaded boxes.

## RATIOS - YOUR EXAMPLE QUESTION AND ANSWER

An example of a ratio is:

**4:1**

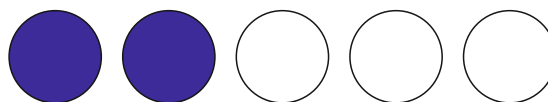


Here we see 4 shaded circles compared to 1 unshaded circle.

**5a. YOUR QUESTION** (4 marks)

**2:3**

2 marks



Here we see 2 blue circles compared to 3 red circles.

2 marks

## AREAS - YOUR EXAMPLE QUESTION AND ANSWER



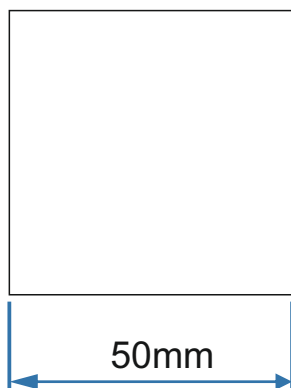
Calculate the area of the square shown opposite. The length of one side is 100mm

$$\text{AREA} = X^2$$

$$\text{AREA} = 100\text{mm} \times 100\text{mm}$$

$$\text{AREA} = 10000\text{mm}^2$$

**5b. YOUR QUESTION** (4 marks)



Calculate the area of the square shown opposite. The length of one side is 50mm

$$\text{AREA} = X^2$$

$$\text{AREA} = 50\text{mm} \times 50\text{mm} \quad 2 \text{ marks}$$

$$\text{AREA} = 2500\text{mm}^2 \quad 2 \text{ marks}$$

## DESIGN AND IMAGINATION

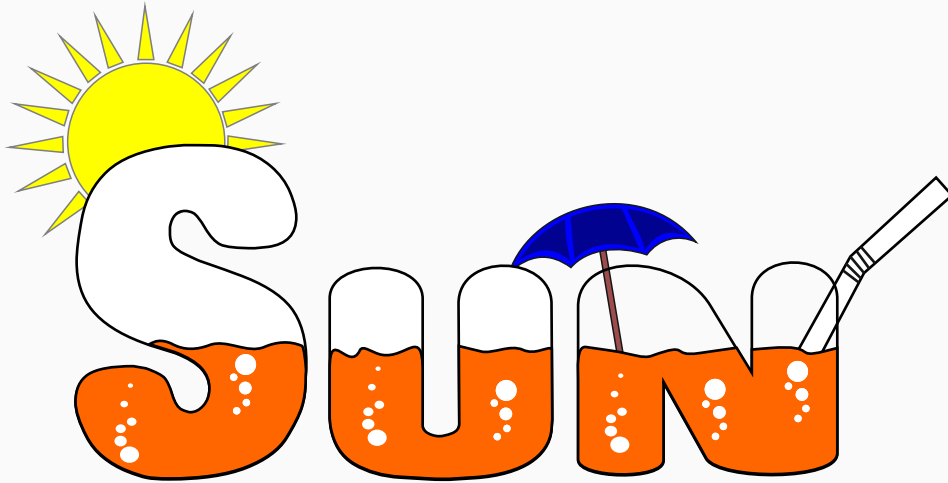
6. The example answer below, shows the word 'SUN', drawn in an artistic way. Colour and images that reflect the meaning of sun and sunny days, have been included, as an aspect of the design.

You are to convert the word 'WINTER', so that it is presented artistically. Your design should include: colours and images that reflect the meaning of the word.

(8 marks)

### EXAMPLE ANSWER

SUN



### YOUR QUESTION

WINTER

**1-2 marks** for a simple design with no colour / images.

**3-4 marks** for reasonable design, a little limited in imagination, but with some colour / images.

**5-8 marks** - for an imaginative design, with good application of colour / shade.