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

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).

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

<table>
<thead>
<tr>
<th>QUESTIONS / INSTRUCTIONS</th>
<th>YOUR ANSWERS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong> Print your name in BLOCK CAPITALS, between two faint parallel, straight, horizontal lines, 10mm apart.</td>
<td>1 mark for 2 lines drawn relatively horizontal</td>
</tr>
<tr>
<td></td>
<td>2 marks for two lines accurately drawn</td>
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<tr>
<td></td>
<td>Up to 2 additional marks for printing in BLOCK CAPITALS</td>
</tr>
<tr>
<td></td>
<td>Subtract a mark for not printing the pupil's own name</td>
</tr>
<tr>
<td><strong>YOUR NAME</strong></td>
<td>(4 marks)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2.</strong> Using a compass, draw a circle with the radius of 25mm.</td>
<td>1 mark for a circle reasonably drawn, but not the correct measurement.</td>
</tr>
<tr>
<td></td>
<td>2 - 3 marks for a circle well drawn and close to 25mm radius.</td>
</tr>
<tr>
<td></td>
<td>4 marks only awarded, for an accurately drawn circle.</td>
</tr>
<tr>
<td></td>
<td>(4 marks)</td>
</tr>
<tr>
<td><strong>3a.</strong> Using a ruler, draw a square with 40mm sides.</td>
<td>1 mark for a square but not the correct measurement.</td>
</tr>
<tr>
<td></td>
<td>2 marks for an accurate square, correct measurement.</td>
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<tr>
<td></td>
<td>1 further mark for good shading but not dark to light in shade.</td>
</tr>
<tr>
<td></td>
<td>(4 marks)</td>
</tr>
<tr>
<td><strong>3b.</strong> Carefully shade the square. Starting with dark on the left and gradually getting lighter, to the right.</td>
<td>2 further shading marks for accurate shading, including dark to light gradient.</td>
</tr>
<tr>
<td></td>
<td>(4 marks)</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-------------------</td>
</tr>
<tr>
<td>A</td>
<td>LOTUS SPORT</td>
</tr>
<tr>
<td>B</td>
<td>RALEIGH ‘CHOPPER’</td>
</tr>
<tr>
<td>C</td>
<td>WALKING MACHINE</td>
</tr>
</tbody>
</table>
4a. Which of the bicycles A, B or C is the oldest? LETTER: ________

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: ________

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

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

AREAS - YOUR EXAMPLE QUESTION AND ANSWER

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

AREA = X²

AREA = 100mm x 100mm

AREA = 10000mm²

5b. YOUR QUESTION (4 marks)

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

AREA = X²

AREA = 50mm x 50mm

AREA = 2500mm²
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.