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**FUNCTIONAL SKILLS**

Maths Level 2



**Area: Measures, shapes and space**

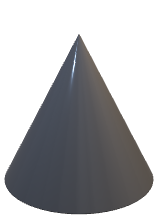
Criterion 20: Understand and use common 2-D representations of 3-D objects

Criterion 21: Draw 3-D shapes to include plans and elevations

**3-D shapes, 2-D shapes and nets**

A 3-D (three-dimensional) shape is a solid object that has length, width and height (or depth).

Examples of 3-D shapes:





Cuboid

Cylinder

Cone

Cube

A 3-D shape is **not** flat like a 2-D shape is. It takes up space and has volume.

2-D shapes are flat and only have length and width.

Examples of 2-D shapes:

Circle

Equilateral triangle

Right angle triangle

Hexagon

**Nets**

A net is a flat pattern you can fold to make a 3-D shape. It shows all the faces (flat sides) of the shape laid out.

When you fold the net along the edges, it makes the 3-D shape.

A green and black squares

AI-generated content may be incorrect.A green and black geometric shapes

AI-generated content may be incorrect.A green and black squares

AI-generated content may be incorrect.

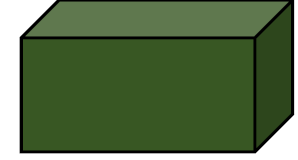
Cylinder

Cuboid

Triangular prism

**Question 1**

Name the 3-D shape below:

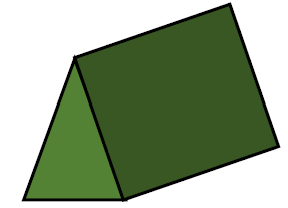


(1 mark)

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**Question 2**

Name the 3-D shape below:

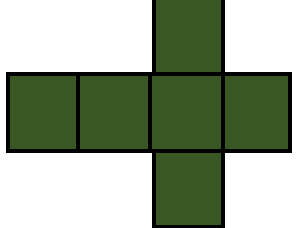


(1 mark)

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**Question 3**

What 3-D shape does the net below represent?

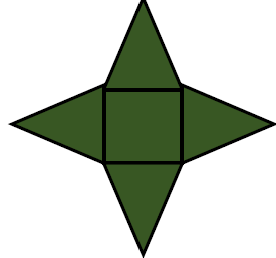


(1 mark)

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**Question 4**

What 3-D shape does the net below represent?



(1 mark)

|  |
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|  |

**Question 5**

Draw a cube on the grid below.



(2 marks)

**Question 6**

Draw the net of a triangular prism on the grid below.



(2 marks)

**Question 7**

Draw the net of a cuboid on the grid below.

A graph paper with a grid

AI-generated content may be incorrect.

(2 marks)

**Plans, elevations and diagrams**

There are different views of 3-D objects you may be asked about in your exam. Think about what 2-D shape you would see if you were looking at the shape from different angles.

Plan

A grey cubes on a green background

AI-generated content may be incorrect.

Front elevation

Side elevation

First is a **plan** view. A plan view is the view from above, as if you were looking down on the object. It shows the layout of the object on a flat surface.

A green square with black lines

AI-generated content may be incorrect.

Next is the **front elevation**. The front elevation is the view from the front of the object. It shows what the object looks like when you are standing directly in front of it.

A green squares with black lines

AI-generated content may be incorrect.

Finally, there is the **side elevation**. The side elevation is the view from the side of the object. It shows the object as if you are standing to the side looking at it.

A green square with black lines

AI-generated content may be incorrect.

**Question 8**

Tick the box showing the **plan** of the shape below.

(1 mark)

A screenshot of a game

AI-generated content may be incorrect.

**Question 9**

Tick the box showing the **front elevation** of the shape below.

(1 mark)

A screenshot of a game

AI-generated content may be incorrect.

Front elevation

A screenshot of a game

AI-generated content may be incorrect.

**Question 10**

Tick the box which shows the **side elevation** of the shape below.

(1 mark)

A screenshot of a game

AI-generated content may be incorrect.

Side elevation

A screenshot of a game

AI-generated content may be incorrect.

**Question 11**

On the grid below, draw the **side elevation** of this shape.

(2 marks)

A yellow cubes with black lines

AI-generated content may be incorrect.

Side elevation

A graph paper with a grid

AI-generated content may be incorrect.

**Question 12**

On the grid below, draw the **front elevation** of this shape.

(2 marks)

A yellow cubes with black outline

AI-generated content may be incorrect.

Front elevation

A graph paper with a grid

AI-generated content may be incorrect.

**Question 13**

On the grid below, draw the **plan view** of this shape.

(2 marks)

A yellow cubes with black lines

AI-generated content may be incorrect.

A graph paper with a grid

AI-generated content may be incorrect.

**Answers**

**3-D shapes, 2-D shapes and nets**

**Question 1**

Cuboid

**Question 2**

Triangular prism

**Question 3**

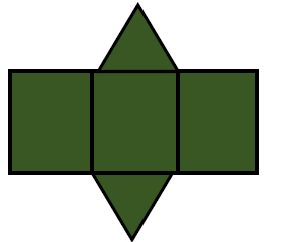
Cube

**Question 4**

Square-based pyramid

**Question 5**

**Question 6**



**Question 7**

**Plans, elevations and diagrams**

**Question 8**

A green square with four squares

AI-generated content may be incorrect.

**Question 9**

A screenshot of a game

AI-generated content may be incorrect.

**Question 10**

A screenshot of a game

AI-generated content may be incorrect.

**Question 11**

**A yellow squares with black lines

AI-generated content may be incorrect.**

**Question 12**

A yellow square with black lines

AI-generated content may be incorrect.

**Question 13**

**A yellow squares with black lines

AI-generated content may be incorrect.**

**Your functional skills exam**

Your functional skills exams will consist of 2 papers.   
These papers will take place over the following time periods:

* Non-calculator paper – 40 minutes
* Calculator – 1 hour 50 minutes

Further information on the format that your test will take can be obtained from your training provider.

**Hints and tips**

* Find out what format your exam will be in. It may be paper-based   
  or on-screen.
* Plan what you are going to revise in advance. Don’t leave it until the last minute.
* Do as many past papers as you can so you are prepared for the day. If possible, try to complete the past papers following the same format as the actual exam.
* Find a quiet place to study and revise. It helps to sit at a table or a desk, don’t revise in bed.
* Don’t stay up all night revising the night before your exam. It’s important to have a good rest so you feel refreshed and ready to go.
* Read the question 3 times. The first time to ensure you understand what is being asked, the second time to get an understanding of what you need to do, and a third time to figure out exactly what maths techniques you should be applying.
* If you are struggling with a question, skip it and come back to it later. Try not to sit getting worked up about a difficult question, it will only waste exam time. Move on and come back to it after you have answered the other questions.
* Take note of the number of marks available. This will give you an indication of how much working out you must show. For example, 1 mark will need an answer only and more marks will need you to show your working out.
* When you’ve finished the exam, go back and check your answers. If you still have time remaining, use it to check your answers and when you have checked your answers check them again.