AQA

Functional Skills Certificate
FUNCTIONAL MATHEMATICS

Level 2

Data Book (Examination)

Insert

Instructions

- This copy of the Data Book is for use in the examination. It should not be given to students in advance.

Advice

- This book will not be collected in for marking. Ensure that all working that you wish to have marked is written in the space provided in the question/ answer book.

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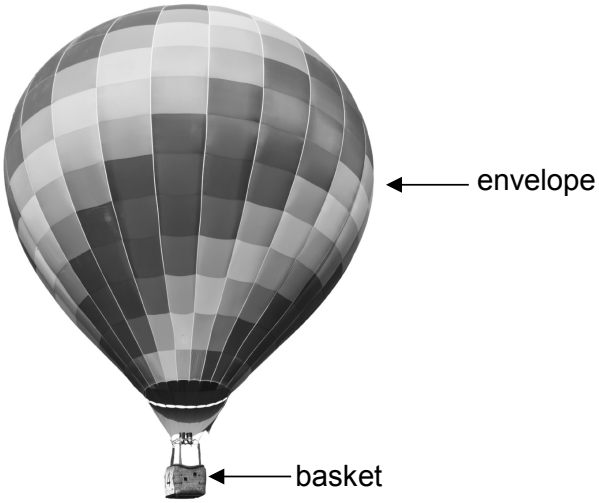
Data sheet for Hot Air Balloon

A hot air balloon has an envelope and a basket.



The basket holds the pilot and passengers.

Pilot qualification

Private balloon pilots can qualify to carry passengers.

To qualify, they must

- complete 10 flights
- complete 35 hours of flying
- be the pilot of a balloon that safely rises to 5000 feet
- pass written and practical tests.

Envelope volume

The volume of the envelope is measured in m^3

An envelope with a volume of 2800 m^3 can lift a basket holding up to 5 people.

Height

Use this formula to convert height in metres to height in feet.

$$F = \frac{10M}{3}$$

F is the height in feet

M is the height in metres

Data sheet for Room Makeover

Heat output of a radiator

The heat output of a radiator is measured in British Thermal Units per hour (BTU per hour).
Different types of room need radiators with different heat outputs.

The table shows the room factor (f) for different types of room.

Room type	**Room factor** (f)
Living, dining, bathroom	177
Bedroom	141
Kitchen, stairs, hallway	106

A living room has a higher room factor than a kitchen because it needs more heat.

Use this formula to work out the **minimum** heat output needed for a room.

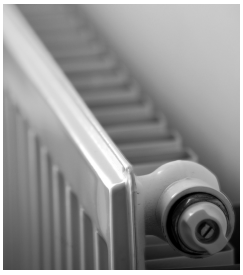
$$h = v \times f$$

h is the heat output in BTU per hour
v is the volume of the room in m^3
f is the room factor

Radiator size

This table shows some single radiator sizes and some double radiator sizes.
The heat output of the radiators is also shown.

	Heat output (BTU per hour)	
Length (mm)	**Single radiator**	**Double radiator**
500	1768	3316
600	2122	3979
700	2475	4642
800	2829	5305
900	3182	5968
1000	3536	6631
1100	3889	7295
1200	4243	7958



Single radiator

Double radiator

Example

A kitchen has length 4.1 m, width 3.6 m and height 2.7 m

$v = 4.1 \times 3.6 \times 2.7$

$= 39.852$

$f = 106$

$h = 39.852 \times 106$

$= 4224.312$

The kitchen needs a minimum of 4224.312 BTU per hour.

The smallest **single** radiator the kitchen needs has length 1200 mm

The smallest **double** radiator the kitchen needs has length 700 mm

Laminate Flooring

Floors can be covered with laminate flooring.

To lay laminate flooring,

cover the floor with underlay

lay laminate floor planks on top of the underlay

fit edging strips around all the edges of the room.

You can cut these items to fit.

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