



Functional Skills Mathematics

Level 2 sample assessment



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May 2015
Version 1-3

Sample paper 2

These materials relate to the assessments that will be in use from September 2015

Candidate Name (First, Middle, Last)

Candidate enrolment number

DOB (DDMMYYYY)

Candidate signature

Assessment date (DDMMYYYY)

Centre number

Total marks	
Task	Mark
Total	

Length of assessment:
2 hours

You should have the following for this assessment

- a pen with black or blue ink
- a pencil and eraser for graph/diagram work
- a 30cm ruler
- a calculator

- You may use a dictionary.



General instructions

- There are **3** tasks to complete.
- Each task is worth 25 marks.
- You should spend an equal amount of time on each task.
- Read through each task carefully.
- Show your working out. You may get marks for it.
- Check your calculations.
- Remember to put units on your answers.
- Write all working out and answers in this booklet.



Task 1 Washing machine

There are **25** marks available for this task.

You should check all your work as you go along.




Introduction

This task is about choosing a new washing machine.

Your washing machine is broken. You need a new one. The new washing machine **must** hold at least as much washing as the old one and spin at least as fast as the old one.





You used your old washing machine **three times a week**.



Details of your old washing machine

Wash up to 6 kg at a time
Spin speed 1200

New washing machines for sale (with 5 year guarantee)

Washing machine		Aqua	Bubble	Eco	Optus	Swirl
Price		£299	£399	£259	£329	£329
	Washes up to	5.5kg	6kg	6kg	7kg	6kg
	Spin speed	1200	1600	1000	1400	1100
	Units of electricity used for each wash	0.9	1.2	0.9	1.3	1.1
	Litres of water used for each wash	42	45	44	50	49

Costs to use a washing machine	
Electricity costs	£0.12 per unit
Water costs	£0.003 per litre



1A

You need to compare the costs of buying and running two **suitable** washing machines. Assume the washing machines will last for five years.

Plan how to solve this task. Write down your plan, including the steps you will use.

(3 marks)





1B

Carry out your plan to investigate the costs.

Show your working. You should check your work as you go along. Write down one of your calculation checks.

Check

(11 marks + 2 check marks)





1C

Draw a table to present your results and compare the costs to buy and run the suitable new washing machines.

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(4 marks)

1D

Decide which washing machine you will buy.
Give **two** reasons for your decision.

<p>Washing machine _____</p> <p>Reasons</p>

(2 marks)





1E Reviewing your work

You need to review how well you did the task.

Think about...



Explain **three** of the most important points.

(3 marks)





Task 2 Orienteering

There are **25** marks available for this task.

You should check all your work as you go along.



Introduction

This task is about a sport called orienteering.

You want to go orienteering in a park.

You have to plan a route and work out how long it will take to complete.

2A

Look at the leaflet on the next page.

Work out a route to visit each checkpoint.

Draw your route on the map.

(3 marks)

2B

Give **two** reasons why you chose this route.

(2 marks)






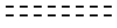

Leaflet

What is orienteering?

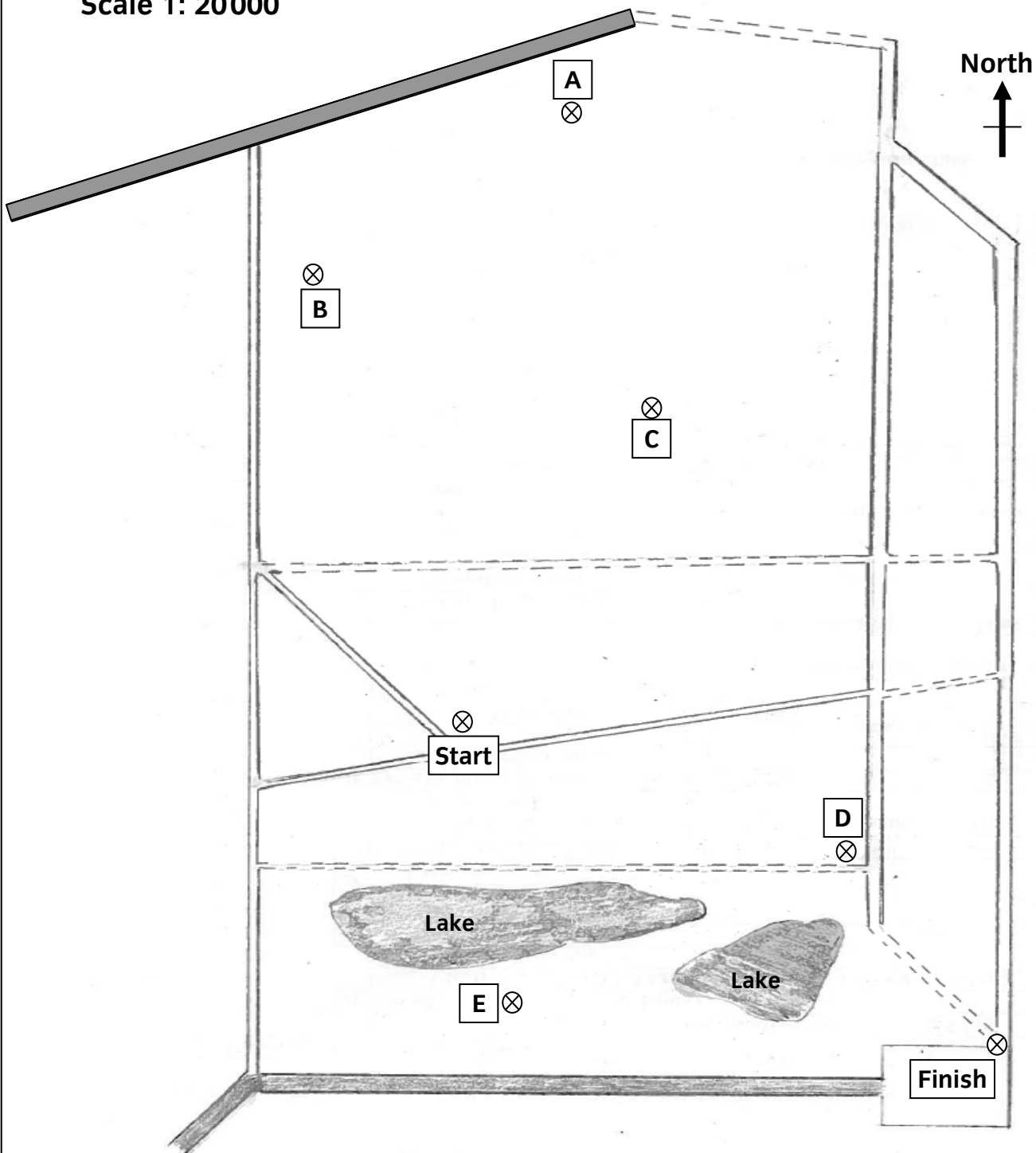
- Orienteering is running around a route finding checkpoints.
- You need to go to every checkpoint.
- You can go to the checkpoints in any order.

Use the map below to plan your route

Key

-  road
-  paths
-  checkpoint

Scale 1: 20000





2C

You need to allow approximately one hour for each **6km** of your route.

Work out the distance of each stage, how long each stage would take to the nearest minute and how long will it take to complete the whole route.

Show your working.

(12 marks)





2D

You need to show a check of how you used the scale in **2C**.
Explain how you know one of the stage distances you calculated is correct.

Write your check here.

(2 marks)

2E

Make a flowchart to summarise your route, including the distances and times for each stage and the total time taken.

(6 marks)



Task 3 Sea fishing competition

There are **25** marks available for this task.
You should check all your work as you go along.



Introduction

This task is about a sea fishing competition.

The winner is the club with the heaviest mean weight of fish per member of the team.

3A

The table shows the weight of the fish each team member caught.

Seaford fishing club results sheet

Results	
Seaford team member	Weight of fish caught (kg)
SF 1	25.65
SF 2	23.98
SF 3	20.65
SF 4	21.45
SF 5	31.23
SF 6	26.20
SF 7	26.95
SF 8	18.95

What is the mean weight of fish caught per team member based on the total weight?

Show your working.

Mean weight per team member _____

(3 marks)



3B

Choose one of your calculations in **3A** to show a check.
Check it by a **different** method to the one you used originally.

Write your check here.

(2 marks)

3C

What is the range of the weights of fish caught by the Seaford team members?

Show your working.

Range of weights _____

(2 marks)



3D

What is the mean weight of fish caught per team member for **each** club?
Complete the results sheet.

Sea fishing competition results sheet

Fishing club	Number of team members	Range (kg)	Total weight of fish caught (kg)	Mean weight of fish caught per team member (kg)
Island	11	5.93	321.45	
Marine	9	10.46	275.95	
Haven	7	6.25	206.50	
Eastern	7	7.13	227.90	
Seaford	8			

Show your working.

(5 marks)

3E

Compare the results for Seaford with the other clubs. Explain what the results show. Include one comment about the means and one comment about the ranges.

Comment about the means

Comment about the ranges

(2 marks)

3F

The winner is the club with the heaviest mean weight of fish per team member.

Make a notice to show the competition results.

Include a chart to show the results **in order** of the mean weights of fish caught. Show clearly which club won.

(7 marks)

Use the graph paper opposite.

3G

This competition was organised by Haven club. One of the other clubs must organise the next competition. Haven club chooses one of the other clubs at random.

What is the chance (probability) that Seaford will organise the next competition?

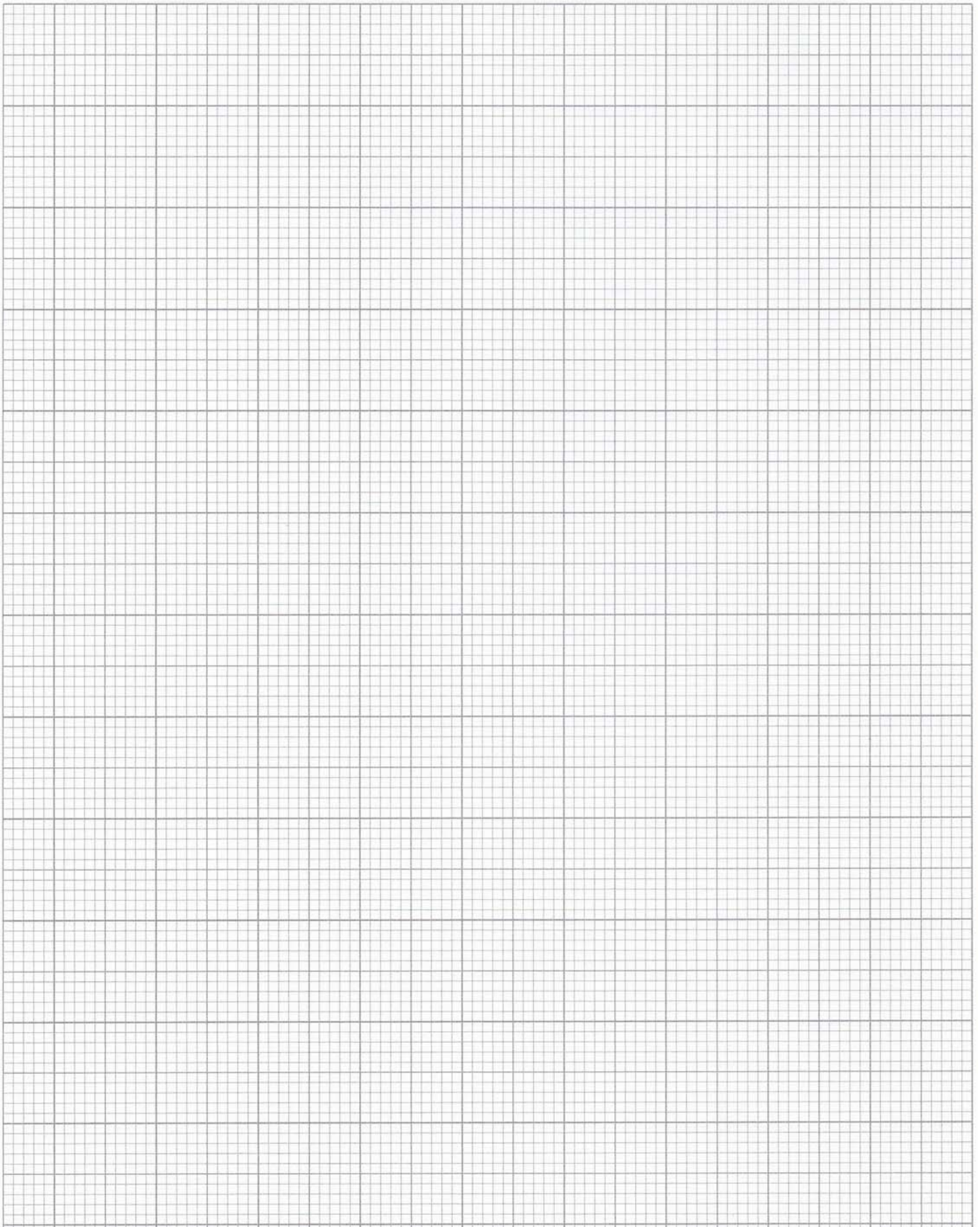
Draw a probability scale to show your answer.

Show your working.

Probability _____

Draw your probability scale below

(4 marks)

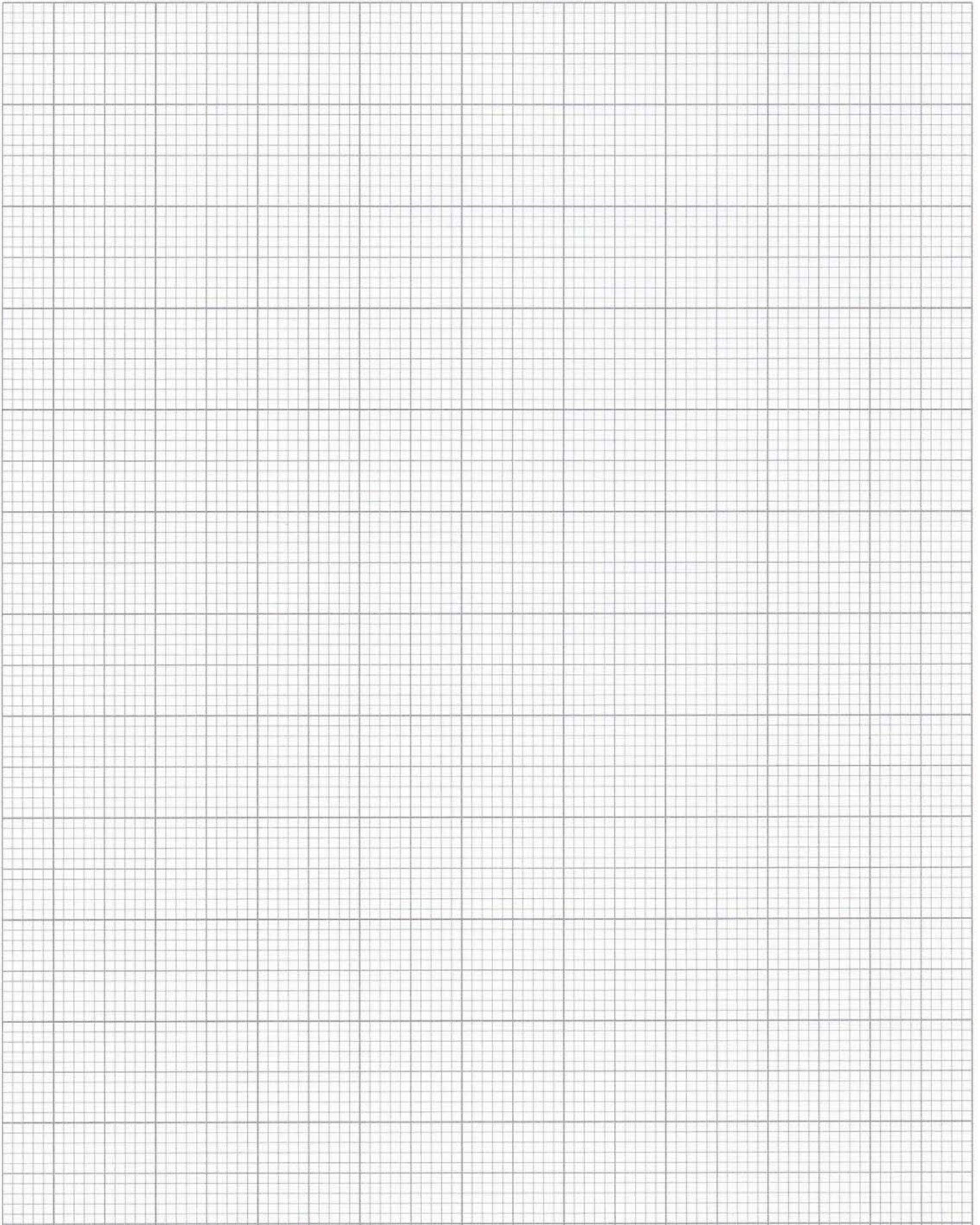


End of assessment





Spare graph paper





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