Functional skills Mathematics

Non-Calculator

Diagnostic Assessment

Level 2

Name: ……

Date: ……

Tutor: ……

Vocational Area: ……

Functional Skills Maths: Diagnostic Assessment

FS Maths Assessment at Level 2

Why are you doing this assessment?

The purpose of this assessment is to find out how we can help you achieve success in your FS Maths. We will use this assessment to identify areas of strength and areas for development with your Maths skills.

On completion of this assessment your tutor will set you individual targets to support the development of your skills.

What you need to do

- Complete the assessment in handwritten form (you may use a calculator on the **designated calculator paper only**)
- You are allowed **75 minutes** to complete the assessment.
- You must clearly show all your working out and calculation methods.

1. Work out an estimate for $\dfrac{31.1\times19.4}{3.98\times5.04}$

Answer _____

2. The temperature in Spain is 6°C, at the same time in Alaska the temperature is −12°C. What is the difference in temperatures?

Answer _____

3. Work out $\frac{3}{4}+\frac{1}{3}$

Give your answer in its simplest form.

Answer _____

4. Work out $5\frac{1}{4}-2\frac{3}{8}$

Answer _____

5. What is 30 as a fraction of 150?

Answer _____

6. What is the value of $6C^2$ when C=9?

Answer _____

7. The cost of hiring a car for a number of days is calculated using the formula:

Hire Cost = 28 x Number of Days + 60

Calculate the cost of hiring a car for 3 days.

Answer _____

8. Work out $1000 + 2500 \times 2$

Answer _____

9. Work out $25 - 2 \times 3^2$

Answer _____

10. Work out 256.508 – 6.4595

Answer _____

11. Work out 7 – 2.835

Answer _____

12. John and his dad go for a meal. They pay for the meal in the ratio 2:1.
John pays £20. What is the total cost of the meal?

Answer _____

13a. Lisa makes fudge using these ingredients.

sugar	500	grams
butter	85	grams
evaporated milk	175	grams
milk	150	millilitres
flavouring	20	millilitres

This makes enough fudge for 4 boxes.
Lisa wants to make enough fudge for 48 boxes.
She already has 1.4 kilograms of sugar.
Sugar is sold in 1 kilogram bags.

How many bags of sugar does she need to buy?

Answer _____

13b. Lisa sells the fudge in three flavours: strawberry, vanilla and mint.

She looks at the number of boxes of each flavour she has sold in the last few weeks.

Strawberry	60
Vanilla	140
Mint	40

This week, Lisa makes 48 boxes.

Using the data above, how many boxes of each flavour should she make?
You **must** show your working.

Strawberry _____

Vanilla _____

Mint _____

14. What is 22% of 300?

Answer _____

15. The distance between two towns on a map measures 5cm. The map has a scale of 1: 30 000.

What is the actual distance between the two towns in km.

Answer _____

16. Lisa has to drive 50 miles to the market.

The market starts at 9 am

She needs to arrive at least half an hour before the market starts.

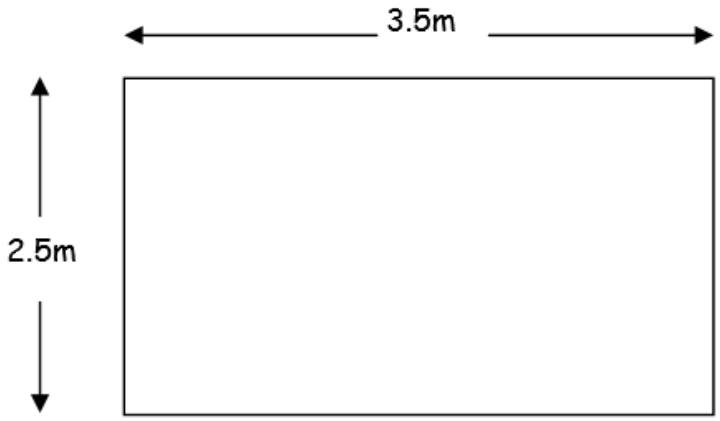
She leaves home at 7.10 am

Lisa says,

"If I drive at an average of 40 miles per hour I will be there in time."

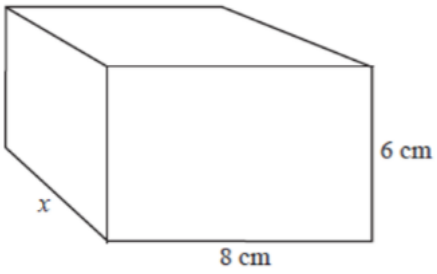
Is she correct?
You **must** show your working.

17. Calculate the area and perimeter.



Area = _____ Perimeter = _____

18. The volume of this cuboid is 480 cm³.
Find the length of the side marked *x*.

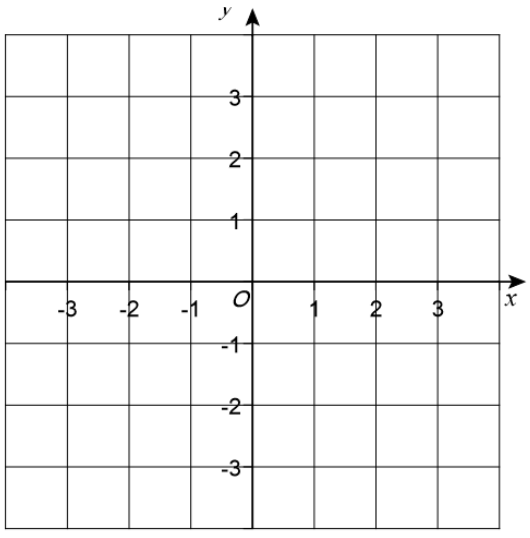


Answer _____

19. What is $\frac{3}{5}$ as a decimal?

Answer _____

20. Plot the point (-3,2) on this grid.



21. Below are some temperatures across Europe. What is the median average temperature?

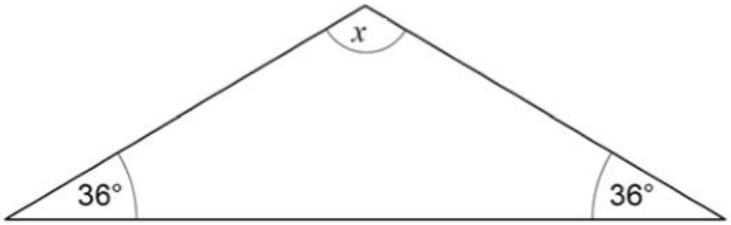
Amsterdam, Netherlands	14
Andorra la Vella, Andorra	18
Athens, Greece	22
Barcelona, Spain	20
Belgrade, Serbia	17
Berlin, Germany	13

Answer _____

22. Mary rolls a dice twice. What is the probability she will roll a 6 twice?

Answer _____

23. Work out the size of angle x in this triangle.

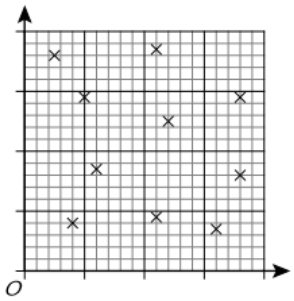


Not drawn accurately

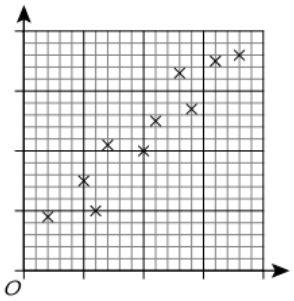
Answer _____

24. **A**, **B**, **C** and **D** are scatter diagrams.

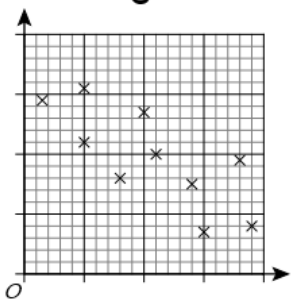
A



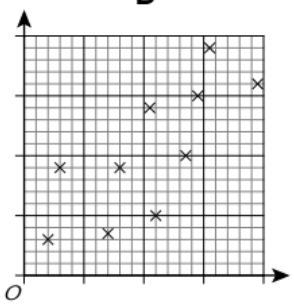
B



C



D



Which diagram shows negative correlation?

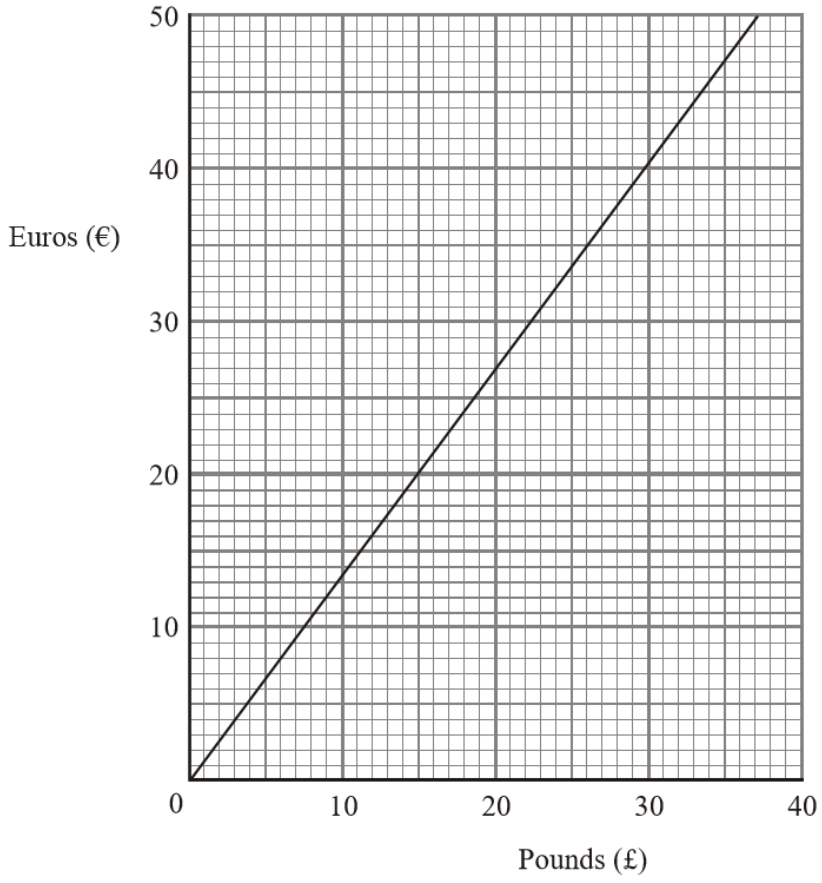
Answer _____

25. Write the following numbers in order of size.
Start with the smallest number.

0.42 0.4 0.415 0.48 0.469

Answer _____

26. The conversion graph can be used to change between pounds (£) and Euros (€).



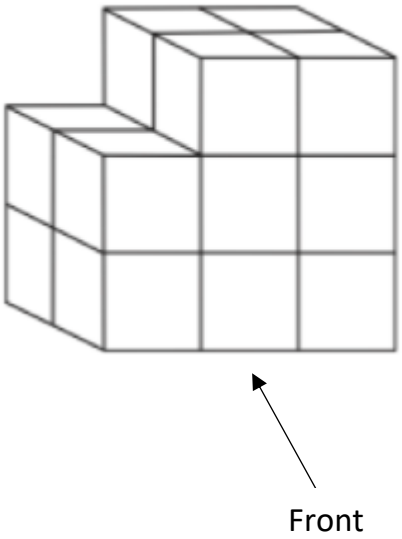
a) Use the graph to change 30 pounds to Euros.

Answer _____

b) Use the graph to change 16 Euros to pounds.

Answer _____

27. The diagram below shows a shape made with centimetre cubes.



On the centimetre square grid, draw the front elevation.

28. James recorded the times, in minutes, for 20 students to complete a test.

The information about these times is shown in the table.

Time (t minutes)	Frequency		
$0 < t \leq 4$	4		
$4 < t \leq 8$	11		
$8 < t \leq 12$	4		
$12 < t \leq 16$	1		

Work out an estimate for the mean time taken.

Answer _____