TQUK Functional Skills Qualification in Maths at Level 2

Examination Past Paper 9

Please complete the CAPITALS.	ne details below using black or blue ink. Use BLOCK
Learner Name:	
Learner Number:	
Date:	
Centre Name:	

Training Qualifications UK

Instructions:

- read each question carefully
- answer all questions
- write your answers **clearly** in the spaces provided
- check your answers.

Information:

- this examination has two sections. These are clearly labelled
- you are **not allowed** to use a calculator for Section A
- you are allowed to use a calculator for Section B
- the maximum mark for this examination is 60
- the marks available for each question are shown in **bold** beneath each question.

Items:

- you **will need** a pen with black or blue ink, a pencil, a ruler and an eraser (for diagrams, graphs and charts only)
- you will need a basic calculator for Section B only
- you will need a protractor
- you will not need any other stationery or equipment.

Time allowed:

30 minutes for Section A (Non-calculator) **90 minutes** for Section B (Calculator)

Do not open this examination paper until you are told to do so.

	Marks available	Marks awarded	Second marks
Section A	15		
Section B	45		
Total marks	60		

For examiner use only

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3. Work out $4^2 - 10 \times 2$





7. On a map, the distance between Mira's house and the cinema is 7 centimetres (cm).

The scale on the map is 1:50 000

Work out the actual distance between Mira's house and the cinema.

Give your answer in kilometres (km).

7 cm × 50000 = 350000 cm ÷ 100 3500m ÷ 1000	35000 cm 0 = 3500 m = 3.5 km	
	Answer 3.5	km
		[2]

8. The table shows the number of students on a course at college:

	First-year students	Second-year students
Attend online classes only	10	13
Attend classes on campus only	15	12

One person is chosen at random.

What is the probability that this person is a second-year student who attends classes on campus only?

Give your answer as a decimal **and** a percentage.



Section B begins on Page 6.



4. Write 0.472: a) as a fraction b) as a percentage. $\frac{472}{1000} = \frac{236}{500} = \frac{59}{125}$ 0.472 b) Percentage: 47.2 % a) Fraction: Answer [2] 5. Put these fractions in order starting with the lowest: 13 15 4 8 5 15 10 **x6** Show any working here: 45 24 48 26 30 30 30 30 4 2 3 8 15 10 Answer 5 **Highest** Lowest

[2]

6. Kai looks online at the reviews of a hotel.

1088 reviewers would recommend the hotel.

192 reviewers would **not** recommend the hotel.

What percentage of the total reviewers would recommend the hotel.

Lotal reviewers = 1088 + 19	2 = 1280	
$\frac{1088}{2} \times 100 = 85 \times$		
12 80		
	Answer 85	%
		[2]
00		

7. Ashley buys a new freezer.

The instructions recommend that the freezer temperature is set at below 0 degrees Fahrenheit (°F).

Ashley sets the temperature to -15 degrees Celsius (°C).

Has Ashley set the freezer to the correct temperature?

Show how you decide.

Use:

$$C=\frac{5(F-32)}{9}$$

Where: C = temperature in degrees Celsius F = temperature in degrees Fahrenheit



[3]

8. Charlie needs to paint the outside of this cuboid:



Charlie thinks the total area to be painted is more than 2 750 500 square centimetres (cm^2) .

Is Charlie correct?

Show how you decide.



[3]

9. Stevie needs to put a rope around the pond shown below.

The pond is in the shape of a rectangle with a semi-circle at each end.



Stevie thinks 55 metres (m) of rope will be needed in total.

Is Stevie correct?

Show how you decide.

Use $\pi = 3.14$



[3]

10. Robin needs to make a pipe out of liquid copper.

Robin knows:

- density of copper = 8.96 g/cm³
- the pipes need to have mass = 4480 grams.

What volume of liquid copper does Robin need to use?

Use: Density = $\frac{\text{mass}}{\text{volume}}$



[3]

	f	P 2
Amount (A) charged per hour (£)	Number of driving instructors	midpoint mxf
20 < A ≤ 30	2	(25 = 50)
30 < A ≤ 40	9)	35 = 315
40 < A ≤ 50	3	(45 = 135)
50 < A ≤ 60	1	× 55 = 55
Total	15	

11. Morgan checks how much driving instructors charge for driving lessons:

Morgan estimates the mean amount per hour.

Morgan will not pay any more than the mean amount.

What is the maximum amount per hour that Morgan will pay?

sum of (mxf) column = 50 + 315 + 135 + 55 = 555
sum of (F) column = 15
estimated mean = $\frac{555}{15} = £37$ per hour
Answer £ 37
[4]

12. Taylor is planning a road trip.

The total distance is 1860 miles.

The average speed limit is 30 miles per hour.

Taylor wants to drive for a maximum of 6 hours per day.

How many whole days will Taylor need to complete the **entire** road trip driving at the average speed limit?



13. Izumi sells chocolate muffins and jam doughnuts.

This table shows the number of chocolate muffins sold over the last 6 days:

Chocolate muffins					
43	30	24	32	28	35

This table shows the number of jam doughnuts sold over the last 6 days:

Jam doughnuts			
Mean number sold per day	28		
Range	25		

Izumi claims:

- i) 'on average I sell more chocolate muffins each day'
- ii) 'the sales of the chocolate muffins are more consistent.'

Are both of Izumi's claims correct?

Give a reason for each of your answers.

Show your working.

[4]

Hayden needs to fill this fish tank with water.The top of the tank is in the shape of a triangle.



To work out how much water the tank holds, Hayden uses this formula:

Volume of tank in cubic centimetres = area of top of tank × height of tank

Hayden has a bucket that will hold 11 litres (I) of water.

What is the minimum number of times Hayden will need to use the bucket to fill the tank?

Answer box is on the following page

$\frac{1}{2} \times 80 \times 30 = 1200 \text{ cm}^2 \text{ (area of triangle)}$	
1200 × 140 = 168 000 cm ³ (volume)	
168000 ÷ 1000 = 168L	
$168 \div 11 = 15.2727$	
Fill the bucket 16 times	
Answer 16	
[5	;]
[5	5]
[5	
[5	;]
[5	5]
	5]
	5]
[9 Duestions continue on the following page	5]

15. Luca wants to put ivy along the top of a 40-foot-long garden fence.

Luca finds these prices:

lvy	Α	В	С	D	E
Price per metre	£2.50	£2.00	£1.50	£1.00	£2.75

They will buy 18% more ivy than needed.

Luca buys the ivy that has the median price.

How much will Luca pay in total?

Use 1 foot = 0.305 metres

Show your working.



This is the end of the assessment.