# GCSE Foundation Full Practice Paper

# LUCKY MATHS

## Paper 3 - Set 2 Calculator

More papers

SCAN ME

Solutions

SCAN ME

**Instructions**

Use black ink or ball-point pen.
Draw diagrams in pencil.
Write your answers in the spaces provided and show all working.
The total mark for this paper is 80

**Materials**

Black pen
Pencil
Ruler
Scientific Calculator

**Answer ALL questions.**
**Write your answers in the spaces provided.**

**You must write down all the stages in your working.**

**1** Work out: $48.6 \div 0.3$

.....

**(Total for Question 1 is 1 mark)**

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**2** **Calculate**: $\sqrt{289}$

.....

**(Total for Question 2 is 1 mark)**

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**3** Find the **value** of: $3.2 \times 4.75$

.....

**(Total for Question 3 is 1 mark)**

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**4** **Evaluate**: $2.5^3$

.....

**(Total for Question 4 is 1 mark)**

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**5** **Simplify** the ratio: 18 : 24

.....

**(Total for Question 5 is 1 mark)**

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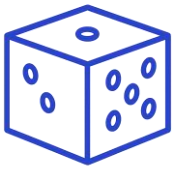

**6** Hannah thinks of a number.

She **divides** it by **6** and then **multiplies** it by **7**.

Her answer is **56**.

What **number** is she thinking of?

.....

**(2)**

**(Total for Question 6 is 2 marks)**

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**7** A factory produces **4,368** bottles of juice.

The bottles are packed **equally** into **24** crates.

(a) How many **bottles** are in **each crate**?

.....

**(1)**

(b) The factory makes **3 more crates** of the **same size**.

How many **extra bottles** are needed to **fill** these crates?

.....

**(1)**

**(Total for Question 7 is 2 marks)**

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**8** (a) **Solve**: $x + 7 = 21$

.....

**(1)**

(b) **Solve**: $\frac{3x}{4} = 9$

.....

**(2)**

**(Total for Question 8 is 3 marks)**

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**9** A farm has cows that produce milk in the **ratio**

**whole milk : skimmed milk = 5 : 3**.

Last week, the farm produced **360 litres** of whole milk.

(a) How many **litres** of **skimmed** milk were produced?

.....

**(1)**

(b) What is the **total amount of milk** produced that week?

.....

**(1)**

**(Total for Question 9 is 2 marks)**

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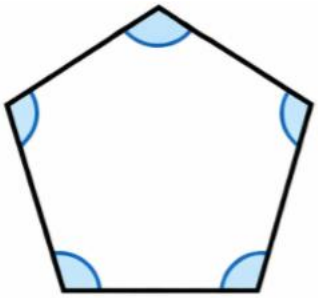
**10** A **regular polygon** is drawn below:



(a) What is the name of the **polygon**

.....

**(1)**

(b) Find the size of **each angle** in the **polygon**.

.....

**(1)**

**(Total for Question 10 is 2 marks)**

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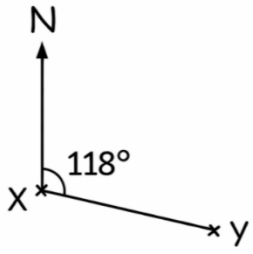
**11** Albert has been asked to find the **bearing** of **Y from X.**

Here is Albert's working.




Explain below the **mistake** that Albert has made.

**(2)**

**(Total for Question 11 is 2 marks)**

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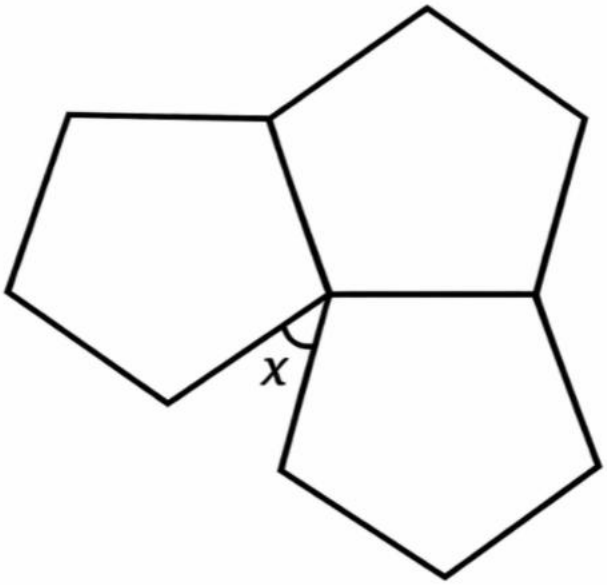
**12** Three **identical polygons** are joined together.



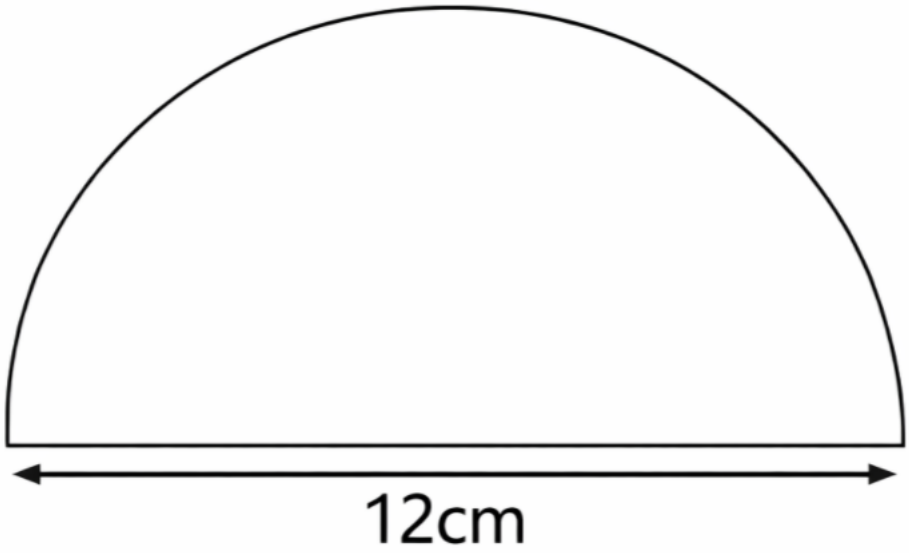

Calculate the size of **angle** x

.....

**(3)**

**(Total for Question 12 is 3 marks)**

**13** Shown below is a **semi-circle**:




Calculate the **area** of the semi circle.

Give your answer to 2 **decimal places**.

.....

**(3)**

**(Total for Question 13 is 3 marks)**

**14** A café sells milkshakes in **two** sizes.

- A **regular** milkshake contains **350 ml** of milk.
- A **large** milkshake contains **480 ml** of milk.

The café makes **12 large milkshakes** in one morning.

How much **milk** do they use in total?

.....

**(1)**

**(Total for Question 14 is 1 marks)**

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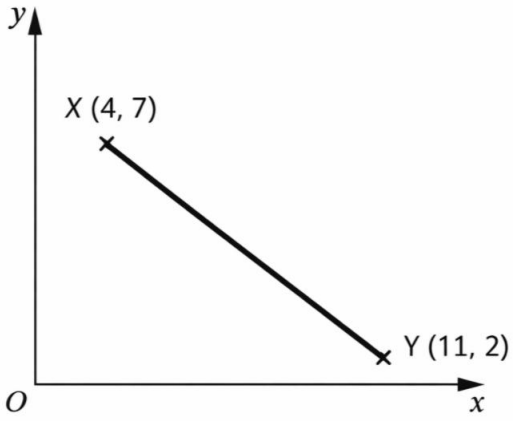
**15** Below is a **line segment** on a grid




X is the point with **coordinates (4, 7).**

Y is the point with **coordinates (11, 2).**

Work out the **coordinates** of the **midpoint** of the line segment **XY**.

.....

**(3)**

**(Total for Question 15 is 3 marks)**

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**16** Here are some **fractions**.

$$\frac{3}{6} \quad \frac{4}{9} \quad \frac{7}{14} \quad \frac{5}{12} \quad \frac{9}{20}$$

Circle the **fractions** which are **equivalent** to $\frac{1}{2}$

**(2)**

**(Total for Question 16 is 2 marks)**

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**17** A mobile phone company advertises a **Data Saver Plan**.

- The plan includes **12 GB** of data each month.
- Sam uses **350 MB per day** browsing the internet.
- At weekends (Saturday and Sunday), Sam uses **twice as much data** each day as he does on weekdays.
- This month has **30 days**, starting on a **Monday**.

Work out how much **data** Sam uses **altogether** this month.

Give your answer in **GB**, to **2 decimal places**.

……GB

**(3)**

**(Total for Question 17 is 3 marks)**

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**18** An average **apple** weighs **128 g** to the nearest gram.

A bag contains **15 apples**.

The bag itself weighs **32 g** to the nearest gram.

What is the **maximum** possible **mass** of the bag of apples?

.....

**(3)**

**(Total for Question 18 is 3 marks)**

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**19** On a safari tour, the ratio of **lions : zebras : giraffes** spotted was **3 : 8 : 5**.

(a) How many **lions** were seen?

.....

**(1)**

(b) How many **giraffes** were seen?

.....

**(1)**

(c) What was the **total number of animals** seen on the safari?

.....

**(1)**

**(Total for Question 19 is 3 marks)**

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**20** Last year, a total of **7,200 emergency calls** were received.

- **40%** of the calls were handled by the **police**.
- **18%** of the calls were handled by the **fire service**.
- The rest were handled by the **ambulance service**.

(a) Work out how many **calls** were handled by the **ambulance** service.

.....

**(3)**

The following year, the number of **fire service** calls **increased** by **25%**.

(b) Work out how many **fire service** calls there were the **following year**.

.....

**(2)**

**(Total for Question 20 is 5 marks)**

**21** Write **6840** as a product of prime factors.

Give your answer in **index form**.

.....

**(3)**

**(Total for Question 21 is 3 marks)**

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**22** An iPad is bought for **£720**.

It **depreciates** in value by **18% per year**.

Work out the **value** of the iPad after **2 years**.

Give your answer to the **nearest pound**.

.....

**(3)**

**(Total for Question 22 is 3 marks)**

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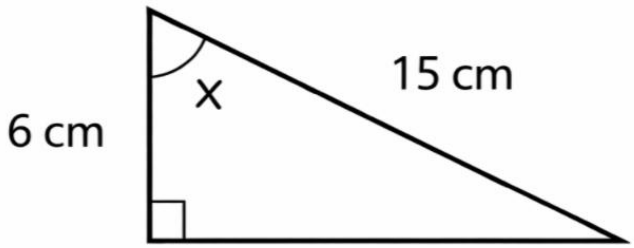
**23** Below is a **right-angled triangle.**




(a) Calculate the **value** of x

……

**(3)**

**(Total for Question 23 is 3 marks)**

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**24** A portable battery pack stores **20,000 mAh** of electrical charge when fully charged.

A smartphone uses **1,800 mAh** of charge every hour when streaming video.

While charging a phone, the battery pack is **85% efficient** (meaning only 85% of the stored charge is transferred to the phone).

The phone is used to stream video for **6 hours**.

(a) How much **charge** does the phone use while **streaming** for **6 hours?**

……

**(2)**

(b) Work out how much useful **charge** the battery pack can provide when it is **fully charged**.

.....

**(1)**

(c) After the **6 hours** of streaming, how much charge **remains** in the battery pack?

.....

**(2)**

**(Total for Question 24 is 5 marks)**

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**25** Bev is revising for her GCSE Maths exam.

She completes **12 practice questions** on Monday.

On **Tuesday**, she completes **35% more questions** than she did on **Monday**.

(a) How many **questions** does Bev complete on **Tuesday**?

.....

**(2)**

Bev wants to complete **at least 40 questions** across both days.

(b) Does she meet her target?

Show your working.

.....

**(2)**

**(Total for Question 25 is 4 marks)**

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**26** Which part of a circle is **double** the **radius**?

.....

**(1)**

**(Total for Question 26 is 1 marks)**

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**27** Complete the table below by converting each value into a **fraction**, **decimal**, and **percentage**.

| Fraction | Decimal | Percentage |
|---|---|---|
| $\frac{4}{5}$ | | |
| | | 22% |
| | 0.35 | |

**(4)**

**(Total for Question 27 is 4 marks)**

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**28** **Brad is growing tomato plants.**

The tallest tomato plant is **62 cm** tall.

The range of the plant heights is **18 cm**.

**Find the height of the shortest tomato plant.**

Include units in your answer.

.....

**(3)**

**(Total for Question 28 is 3 marks)**

**29** A shop sells energy drinks in **two different offers**.

**Offer A:**

A pack of **6 bottles** costs **£4.80**.

Each bottle contains **330 ml**.

**Offer B:**

A pack of **10 bottles** costs **£7.50**.

Each bottle contains **250 ml**.

(a) Work out the cost **per 100 ml** for Offer A.

.....

**(2)**

(b) Work out the cost **per 100 ml** for Offer B.

.....

**(2)**

(c) Which offer gives the better value for money?
Give a reason for your answer.

.....

**(1)**

**(Total for Question 29 is 5 marks)**

**30** Albert is travelling around the UK to watch his favourite band on tour.

Leg 1: Manchester ➜ Birmingham

Albert **drives** from **Manchester** to **Birmingham**, a **distance of 140 km**.

He travels at an **average speed** of **80** km/h.

(a) Calculate the time, in **minutes**, that this journey takes.

.....

**(2)**

Leg 2: Birmingham ➜ London

After a short break, Albert continues to London.

This part of the trip is **160 km**.

He plans to complete this journey in **2 hours 15 minutes**.

(b) Work out the **average speed**, in km/h, Albert must travel at.

.....

**(2)**

(c) Work out Albert's **total distance** travelled on his journey from Manchester to London via Birmingham.

……

**(1)**

**(Total for Question 30 is 5 marks)**

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**TOTAL FOR PAPER IS 80 MARKS**