

**GCSE**  
New Two Tier

**Foundation Level**  
**Paper 2**  
**Calculator**



**SAMPLE**

$\pi$  is 3.142

**ANSWERS**

**Materials needed for examination**

Ruler marked in centimetres and millimetres,  
protractor, compasses, pen, pencil, rubber, calculator.  
Tracing paper if required

**Legend used in answers**

**Blue** dotted boxes – instructions or key points

Start with a column or row that  
has only one number missing

**Green** Box - Working out

5b means five times b  
b = -3 so  $5 \times -3 = -15$

**Red** Box and ✓ - Answer

48 % ✓

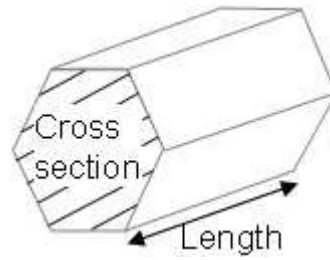
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Marks shown in brackets for each question (2)

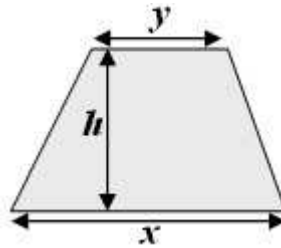
Grade	B	C	D	E
Score	70	50	30	9

## Formulae Sheet

**Volume of prism** = area of cross section  $\times$  length



**Area of trapezium** =  $\frac{1}{2}(x + y)h$



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

You must write down all stages in your working.

1. Laura travelled to Thailand  
For every £1 she got 64.5 Baht



- a) How much will she get in Baht for £350

Do we have more or less than 350 Baht?  
If £1 = 64.5 Baht ; £2 = 129 so we get more.  
So multiply by 64.5

3 5 0 x 6 4 . 5 =

22575

..... Baht (2)

When she returned Laura converted 1600 Baht back to pounds.  
At that time she needed 64.5 Baht to get a £1.

- b) How many pounds will she get to the nearest penny.

This time she will get less, so divide by 64.5

1 6 0 0 ÷ 6 4 . 5 =

24.81

£..... (2)

2. a) Using a calculator what is:

$$\frac{7.4}{4.9 - 2.1}$$

Use brackets to get calculator to subtract before it divides

7 . 4 ÷ ( 4 . 9 - 2 . 1 ) =

2.6428571

Write down your calculator display

..... (2)

- b) Put these numbers in order of size from the smallest to largest..

Convert everything to a decimal

$$\frac{3}{4}$$

70%

$$\frac{7}{9}$$

0.72

$$\frac{5}{7}$$

4<sup>th</sup>

1<sup>st</sup>

5<sup>th</sup>

3<sup>rd</sup>

2<sup>nd</sup>

0.75

0.70

0.77

0.72

0.71

3 ÷ 4 =

7 ÷ 9 =

5 ÷ 7 =

..... (2)

3. This table shows how students travel to school  
Complete the two way table

Start with a column or row that has only one number missing

	Bike	Walk	Bus	Total
Male	5 ✓	19	28	52 ✓
Female	3	14 ✓	31 ✓	48
Total	8 ✓	33 ✓	59	100

3.  $52 - 28 - 19 = 5$

4.  $5 + 3 = 8$

1.  $59 - 28 = 31$

2.  $100 - 48 = 52$

5.  $100 - 8 - 59 = 33$

6.  $33 - 19 = 14$

4. What is

a)  $\sqrt{(4.5 + 7.8)}$

Make sure you add 4.5 and 7.8 before doing the square root

✓ ( 4 . 5 + 7 . 8 ) =

3.507 ✓

or

4 . 5 + 7 . 8 = ✓ =

b)  $\pi r^2$  when  $r = 3.25$

$3.25^2 \pi r^2 = \pi \times 3.25^2$

get  $\pi$  using shift  $\pi$

The  $x^2$  button squares 3.25

shift  $\pi$  x 3 . 2 5  $x^2$  =

or

shift  $\pi$  x 3 . 2 5 x 3 . 2 5 =

33.187 ✓

c)  $\frac{1}{0.25^2}$

Work out 0.25<sup>2</sup> first =  $0.25 \times 0.25 = 0.0625$   
Then use the  $1/x$  button

0 . 2 5 x 0 . 2 5 = 1/x =

16 ✓

(3)

or

0 . 2 5  $x^2$  1/x =

The  $x^2$  button squares 0.25

5. a) Simplify  $y^6 \times y^4$

When you **multiply** powers they **ADD**  $6 + 4 = 10$

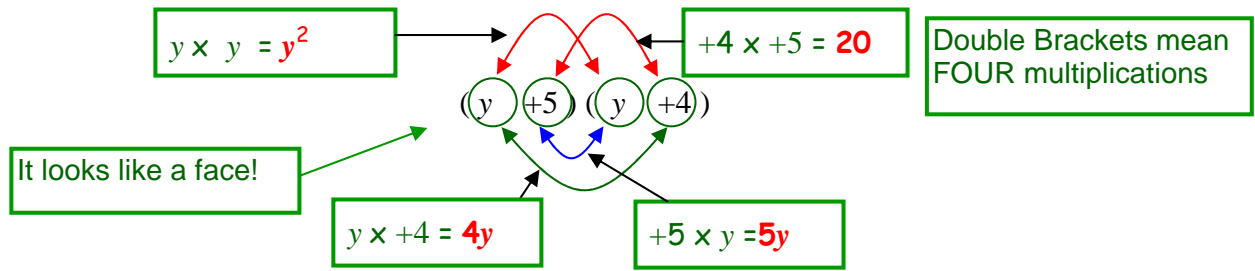
$y^{10}$  ✓

$y^6$  means  $y$  times itself 6 times and  $y^4$  means  $y$  times itself 4 times

(1)

So  $y^6 \times y^4 = y \times y \times y \times y \times y \times y \times y \times y \times y \times y \times y \times y$   
 $= y \times y \times y \times y \times y \times y \times y \times y \times y \times y \times y \times y$  or  $y$  times itself 10 times  $= y^{10}$

b) Expand and simplify  $(y + 5)(y + 4)$



Simplify – collect like terms together

$4y + 5y + y^2 + 20 = y^2 + 9y + 20$

Use **FOIL** to help you remember the 4 multiplications:  
**F**irst terms  
**O**uter terms  
**I**nner terms  
**L**ast terms

**OR** use a 2x2 grid  
Then simplify

$\times$	$y$	$+4$
$y$	$y^2$	$+4y$
$+5$	$+5y$	$+20$

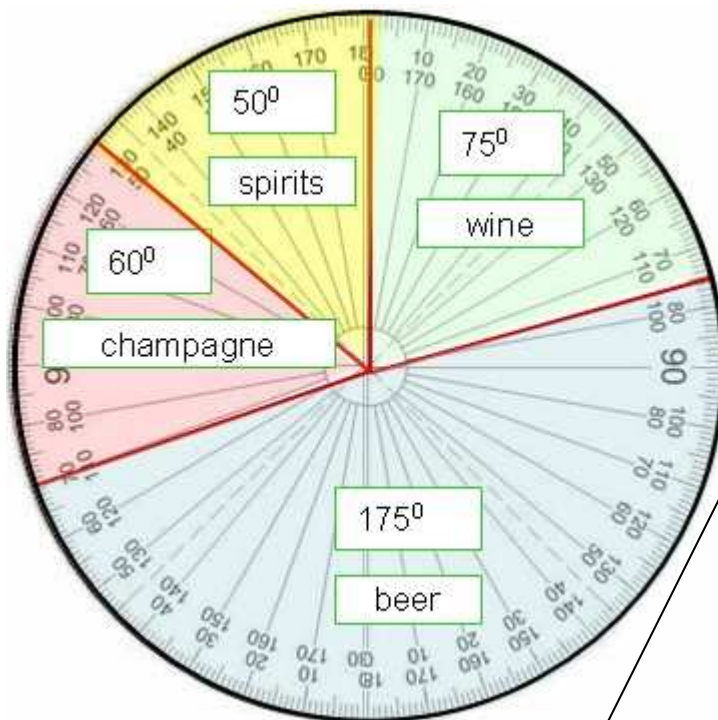
$y^2 + 9y + 20$  ✓

..(2)

6. Maurice recorded the types of beverages that 72 of his customers bought in his off-license for Christmas

Beverage	Frequency
Wine	15
Beer	35
Spirits	10
Champagne	12

Draw an accurate pie chart to show this information



$$360 \div 72 \times 15 =$$

A circle has  $360^\circ$   
 This probably comes from the fact that it takes about 360 days for the Earth to go around the Sun!

Work out how many degrees each customer would be on the circle

Degrees per customer is:  
 $360 \div \text{number customers}$   
 $= 360^\circ \div 72 = 5^\circ$

Now use frequency to work out how many degrees for each beverage

Degrees for Wine is:  
 $\text{Freq wine} \times 5^\circ$   
 $= 15 \times 5^\circ = 75^\circ$

Degrees for Beer is:  
 $\text{Freq beer} \times 5^\circ$   
 $= 35 \times 5^\circ = 175^\circ$

Degrees for Spirits is:  
 $\text{Freq spirits} \times 5^\circ$   
 $= 10 \times 5^\circ = 50^\circ$

Degrees for Champagne is:  
 $\text{Freq champagne} \times 5^\circ$   
 $= 12 \times 5^\circ = 60^\circ$

(4)

Check that these all add up to  $360^\circ$   
 $75^\circ + 175^\circ + 50^\circ + 60^\circ = 360^\circ$