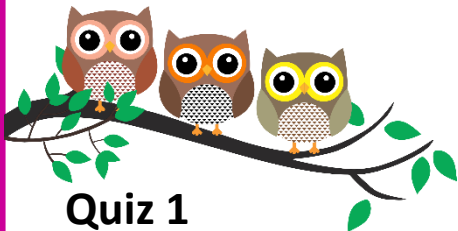


# Higher Interleaving Quiz

## Branch 4

### Quizzes 1 to 3



#### Quiz 1

| Q | Topic                 | $\Sigma$ | R | A | G |
|---|-----------------------|----------|---|---|---|
| 1 | Ratio Problem         |          |   |   |   |
| 2 | Regional Inequalities |          |   |   |   |
| 3 | Circle Theorem        |          |   |   |   |
| 4 | Frequency Tree        |          |   |   |   |
|   |                       |          |   |   |   |

#### Home Study Focus

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Home Study  
Completed

#### Quiz 2

| Q | Topic                     | $\Sigma$ | R | A | G |
|---|---------------------------|----------|---|---|---|
| 1 | Reverse Percentage        |          |   |   |   |
| 2 | Difference of Two Squares |          |   |   |   |
| 3 | Volume and Mass           |          |   |   |   |
| 4 | Histogram                 |          |   |   |   |
|   |                           |          |   |   |   |

#### Home Study Focus

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Home Study  
Completed

#### Quiz 3

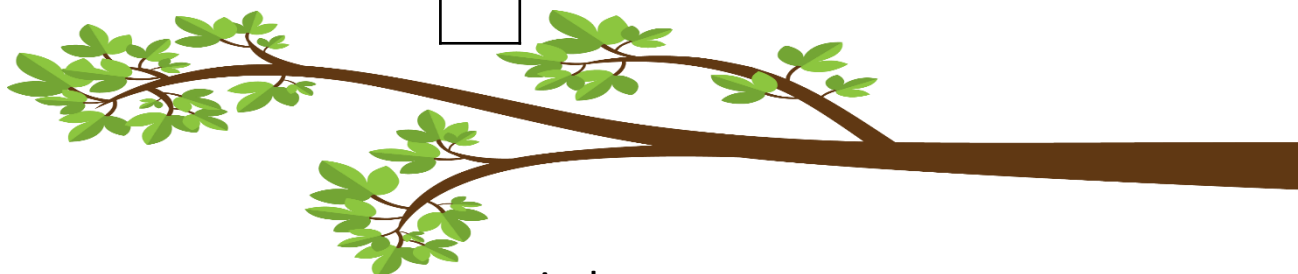
| Q | Topic         | $\Sigma$ | R | A | G |
|---|---------------|----------|---|---|---|
| 1 | Standard Form |          |   |   |   |
| 2 | Iteration     |          |   |   |   |
| 3 | Area Problem  |          |   |   |   |
| 4 | Venn Diagram  |          |   |   |   |
|   |               |          |   |   |   |

#### Home Study Focus

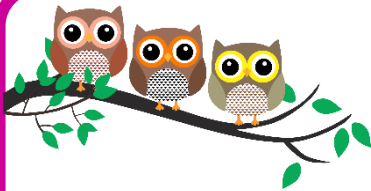
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Home Study  
Completed



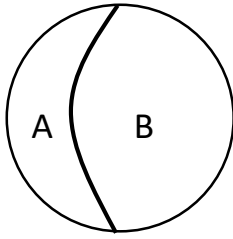
# Higher Interleaving Quiz



## Branch 4 Quiz 1

- 1) The diagram shows a circle split into two regions: A and B.

(4 marks)



The ratio of the area of the regions A and B are 1 : 3.  
The radius of the circle is 10cm.  
Calculate the area of region B  
Leave your answer in terms of pi.

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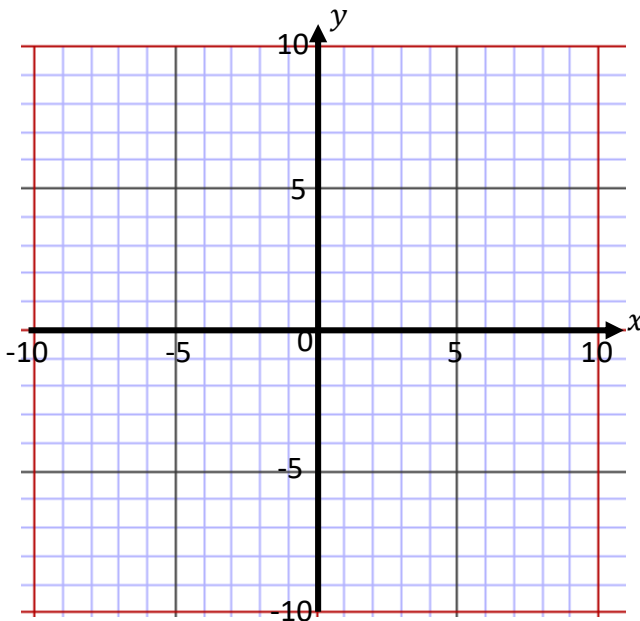


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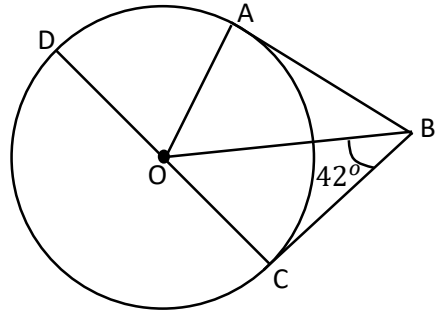
Answer: \_\_\_\_\_

- 2) On the grid shade the region that satisfies all three of these inequalities. (3 marks)

$$x > -2, \quad y < 4 \quad \text{and} \quad y > 2x - 3$$



- 3) A, C and D are points on the circumference of a circle, centre O. CD is a diameter. AB and BC are tangents to the circle.

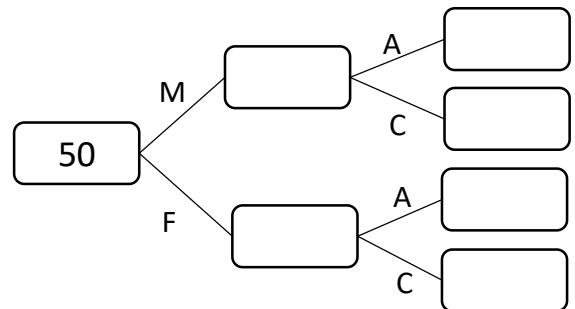


Work out the size of the angle DOA. Give reasons for your answer.

Angle DOA: \_\_\_\_\_ (4 marks)

- 4) 50 passengers were on a bus.  
14 people were male.  
Male adults to children were in the ratio of 5:2  
25 adults in total.

- a) Complete the frequency tree. (3 marks)

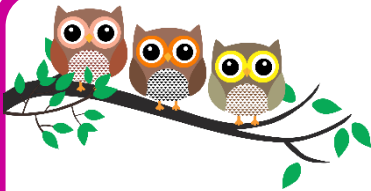
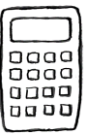


- b) What proportion of the passengers were children? (1 marks)

Answer: \_\_\_\_\_

| Q | Topic                 | $\Sigma$ | R | A | G |
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# Higher Interleaving Quiz



## Branch 4 Quiz 2

- 1) In a sale, the original price of a coat was reduced by  $\frac{1}{5}$ . **(3 marks)**

The sale price of the bag is £43.20.  
Work out the original price.

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Answer: \_\_\_\_\_

- 2) Factorise and solve  $4x^2 - 49 = 0$  **(3 marks)**

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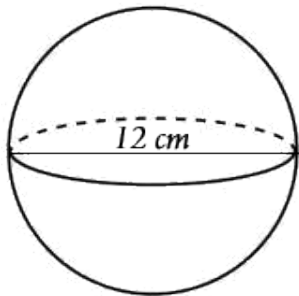


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Answer: \_\_\_\_\_

- 3) a) Calculate the volume of the sphere. **(2 marks)**

Volume of sphere =  $\frac{4}{3}\pi r^3$




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Answer: \_\_\_\_\_

- b) The sphere has density of  $0.4\text{g/cm}^3$ . Calculate the mass of the object. **(2 marks)**

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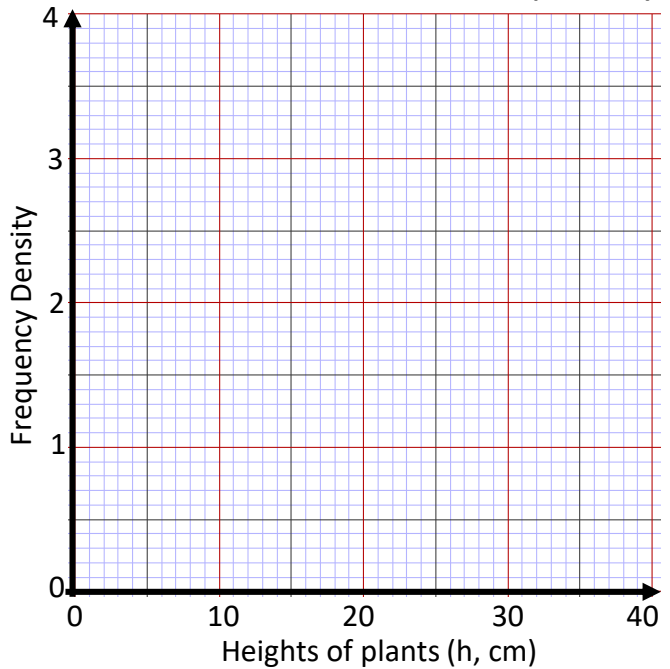
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Answer: \_\_\_\_\_

- 4) The heights of 60 plants were recorded by a gardener. The results are shown in the table.

| Height ( $h$ ) in cm | Frequency |  |  |
|----------------------|-----------|--|--|
| $0 < h \leq 10$      | 15        |  |  |
| $10 < h \leq 15$     | 14        |  |  |
| $15 < h \leq 25$     | 23        |  |  |
| $25 < h \leq 30$     | 8         |  |  |

- a) On the grid, draw a histogram for the information in the table. **(3 marks)**

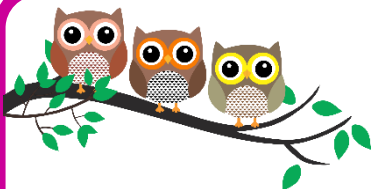


- b) Plants can only be sold if they're taller than 12cm. The gardener says he can sell on 70% of his crop. Is he correct? **(2 marks)**

Answer: \_\_\_\_\_

| Q | Topic                     | $\Sigma$ | R | A | G |
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# Higher Interleaving Quiz



## Branch 4 Quiz 3

1) A teacher asks Faheem and Ella to convert 20 257 into standard form.

a) Faheem writes  $20.257 \times 10^3$  (1 mark)  
Criticise Faheem's answer.

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b) Ella writes  $2.0257 \times 10^{-4}$  (1 mark)  
Criticise Ella's answer.

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2) An approximate solution to an equation is found using this iterative process.

$$x_{n+1} = \frac{x_n^3 - 5}{8} \text{ and } x_1 = 0$$

Work out the solution to 3 decimal places. (3 marks)

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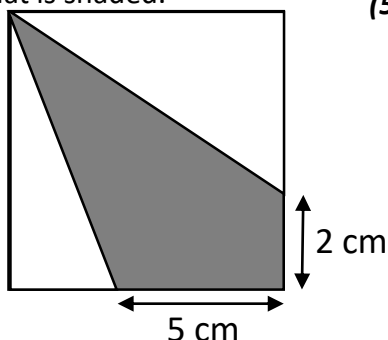


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Answer: \_\_\_\_\_

3) The diagram shows a square with perimeter 24cm.

Work out the proportion of area inside the square that is shaded. (5 marks)




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Answer: \_\_\_\_\_

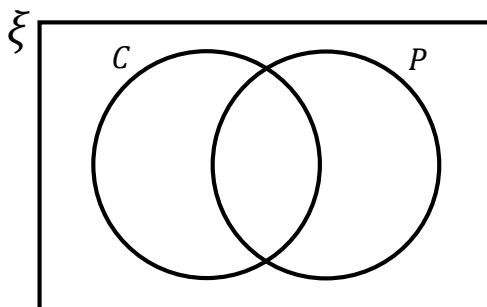
4) In the Venn diagram

$\xi = 80$  orchards

C = Orchards growing cherries

P = Orchards growing plums

(5 marks)



60 orchards grow only cherries or plums.

$\frac{7}{10}$  of these 60 orchards grow only cherries.

The number of orchards that grow cherries is double the number that grow plums.

Complete the Venn Diagram.

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| Q | Topic         | $\Sigma$ | R | A | G |
|---|---------------|----------|---|---|---|
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| 3 | Area Problem  |          |   |   |   |
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