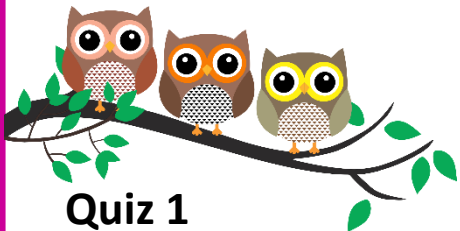


# Higher Interleaving Quiz

## Branch 7

### Quizzes 1 to 3



#### Quiz 1

Q	Topic	$\Sigma$	R	A	G
1	Product of Prime Factors				
2	Functions				
3	Right Angled Trigonometry				
4	Cumulative Frequency				

#### Home Study Focus

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Home Study  
Completed

#### Quiz 2

Q	Topic	$\Sigma$	R	A	G
1	Percentage Problem				
2	Forming and Solving Equations				
3	Area Problem				
4	Averages from a Table				

#### Home Study Focus

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Home Study  
Completed

#### Quiz 3

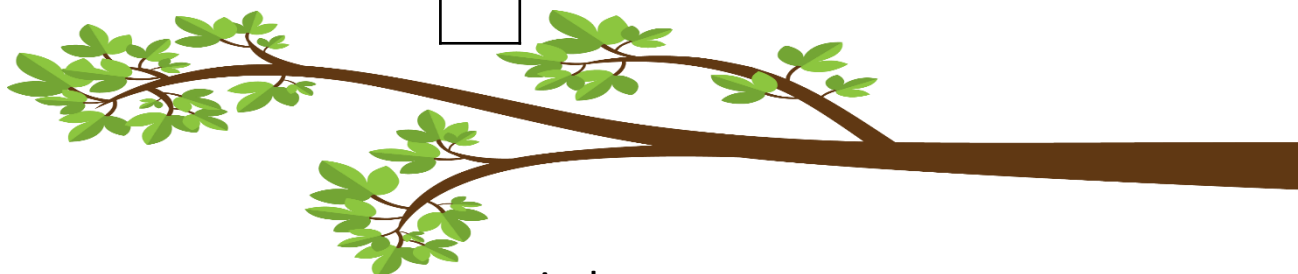
Q	Topic	$\Sigma$	R	A	G
1	Recurring Decimal				
2	Regional Inequalities				
3	Volume and Mass				
4	Probability				

#### Home Study Focus

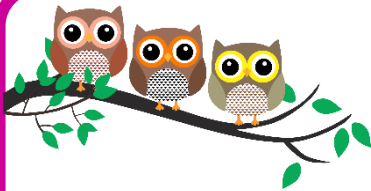
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Home Study  
Completed



# Higher Interleaving Quiz



## Branch 7 Quiz 1

1) Express 252 as a product of its prime factors in index form. **(3 marks)**

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

2) The functions  $f(x)$  and  $g(x)$  are given by the following:

$$f(x) = x + 4$$

$$g(x) = x^2 - 2$$

a) Calculate the value of  $gf(5)$  **(2 marks)**

\_\_\_\_\_

\_\_\_\_\_

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

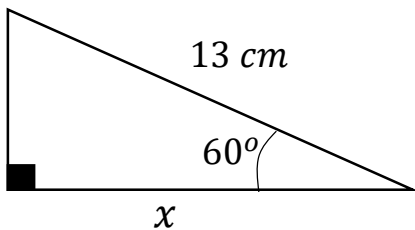
b) Find  $g^{-1}(x)$  **(2 marks)**

\_\_\_\_\_

\_\_\_\_\_

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

3) Work out the length of side  $x$ . **(3 marks)**



\_\_\_\_\_

\_\_\_\_\_

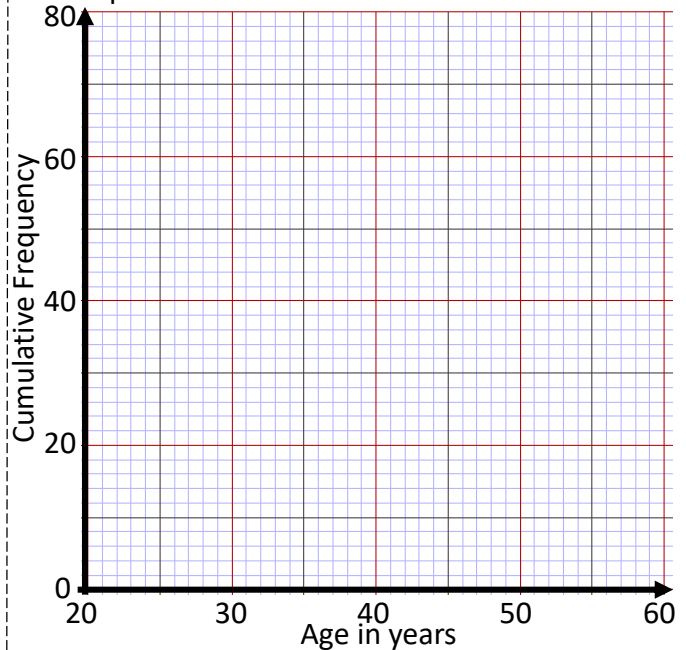
\_\_\_\_\_

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

4) This frequency table gives information about the ages of 80 teachers. **(3 marks)**

Age ( $A$ ) in years	Frequency		
$25 < A \leq 30$	13		
$30 < A \leq 40$	19		
$40 < A \leq 50$	25		
$50 < A \leq 55$	14		
$55 < A \leq 60$	9		

a) Draw a cumulative frequency graph to represent this information. **(3 marks)**

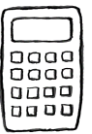
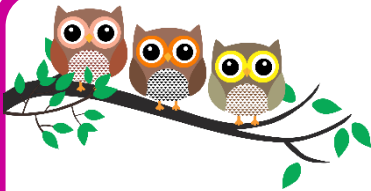


b) Estimate the number of teachers who are older than 45 years. **(2 marks)**

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

Q	Topic	$\Sigma$	R	A	G
1	Product of Prime Factors				
2	Functions				
3	Right Angled Trigonometry				
4	Cumulative Frequency				

# Higher Interleaving Quiz



## Branch 7 Quiz 2

- 1) Ollie wants to invest £15 000 into a bank account for 3 years.  
Which account should he choose? **(5 marks)**

**Account A**

Interest:  
2.5% per year  
compound interest

**Account B**

Interest:  
3% for the first year,  
2.5% for the second year  
and  
1.5% for the third year.

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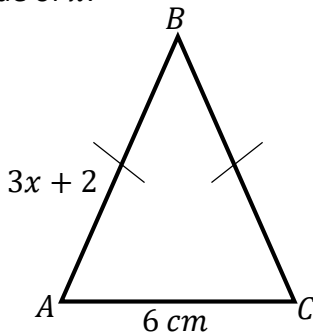
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Answer: \_\_\_\_\_

- 2) In the diagram all measurements are in cm.  
ABC is an isosceles triangle.  
The perimeter of the triangle is 55 cm  
Find the value of  $x$ . **(3 marks)**




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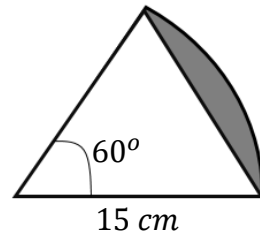
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Answer: \_\_\_\_\_

- 3) Find the area of the shaded region. **(4 marks)**




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

- 4) Times of both men and women running the London Marathon were recorded.  
The women's mean time was 4 hours and 30 minutes.  
The table below shows the men's times.  
Compare the times that the men and women ran the race in. **(3 marks)**

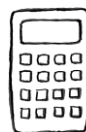
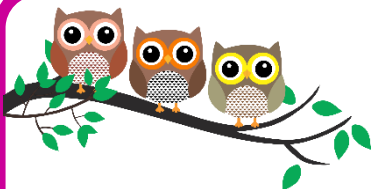
Time ( $t$ ) in mins	Frequency
$220 < t \leq 260$	27
$260 < t \leq 280$	32
$280 < t \leq 300$	24
$300 < t \leq 330$	17

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Q	Topic	$\Sigma$	R	A	G
1	Percentage Problem				
2	Forming and Solving Equations				
3	Area Problem				
4	Averages from a Table				

# Higher Interleaving Quiz



## Branch 7 Quiz 3

1) Express  $0.\dot{1}\dot{5}$  as a fraction in its simplest form.

(3 marks)

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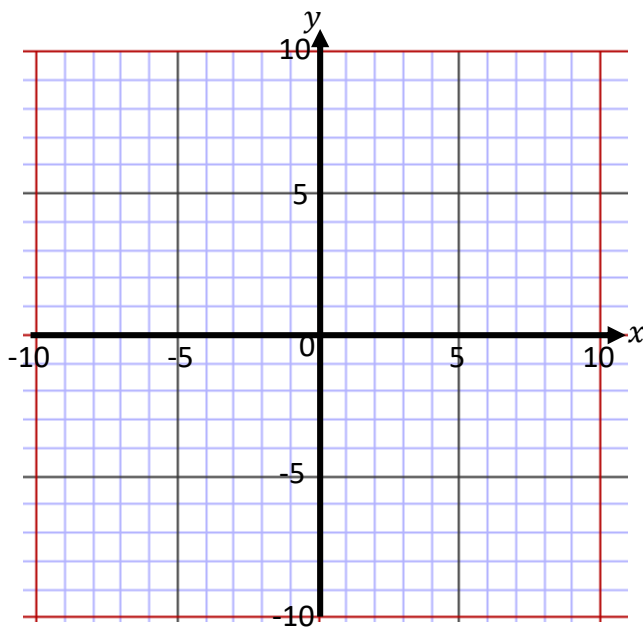
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Answer: \_\_\_\_\_

2) The region **R** satisfies the inequalities

$$y \geq x - 3 \quad y < 3 \quad y - 3x \leq 4$$

On the grid below, draw straight lines and use shading to show the region **R**. (4 marks)



3) The diagram shows a solid cylinder. (5 marks)

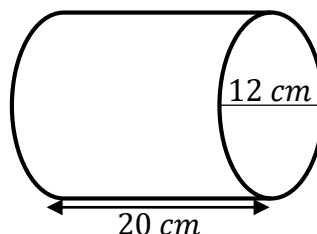


Diagram **NOT** accurately drawn

The cylinder is made from titanium.  
The density of titanium is  $4.4 \text{ g/cm}^3$   
Calculate the mass of the cylinder.

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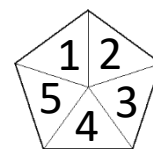
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Answer: \_\_\_\_\_

4) Here is a spinner.



a) Abdul is going to spin the spinner 5 times. He says, "I will get one of each number." Give a reason why he could be wrong. (1 mark)

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b) Siraj spins the dice 40 times. (2 marks)  
His results are shown in the table below.

Number Spun	1	2	3	4	5
Frequency	10	6	4	8	12

Work out the relative frequency of spinning an even number.

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

Q	Topic	$\Sigma$	R	A	G
1	Recurring Decimal				
2	Regional Inequalities				
3	Volume and Mass				
4	Probability				