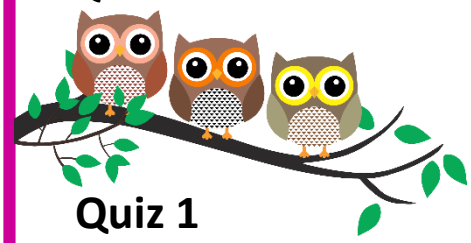
Higher Interleaving Quiz

Branch 3

Quizzes 1 to 3



Quiz 1

Q	Topic	∑	R	A	G
1	Ratio Problem				
2	Simultaneous Equation				
3	Circle Theorem				
4	Frequency Tree				

Home Study Focus

Home Study Completed ☐

Quiz 2

Q	Topic	∑	R	A	G
1	Reverse Percentage				
2	Expand and Simplify				
3	Right-Angled Trigonometry				
4	Probability Tree				

Home Study Focus

Home Study Completed ☐

Quiz 3

Q	Topic	∑	R	A	G
1	Compound Interest				
2	Functions				
3	Transformations				
4	Histogram				

Home Study Focus

Home Study Completed ☐

Higher Interleaving Quiz

Branch 3 Quiz 1

1) In year 11 at school the ratio of
$girls: boys = 5:9$
There are 72 more boys than girls.
Work out the total number of students in year 11.

(3 marks)

Answer: _____

2) Solve

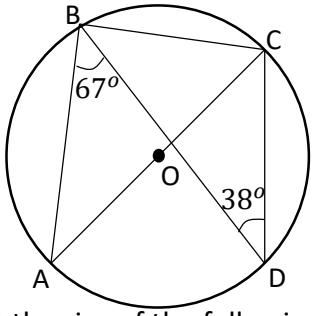
$$2x + 3y = 19.5$$
$$x - y = -1.5$$

(3 marks)

$x =$ _____

$y =$ _____

3) A, B, C and D are points on the circumference of a circle, centre O. AC is a diameter.



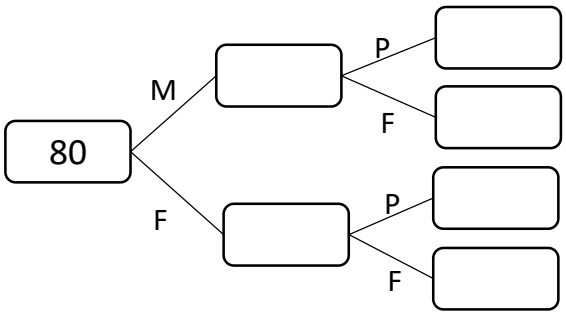
Work out the size of the following angles, giving reasons for your answers

a) Angle ACD: _____ ***(2 marks)***

b) Angle ACB: _____ ***(3 marks)***

4) 80 people took a test.
52 people were female.
Females passed and failed in the ratio of 3:1.
47 people passed in total.

a) Complete the frequency tree. ***(2 marks)***



b) What proportion of males passed the test? ***(2 marks)***

Answer: _____

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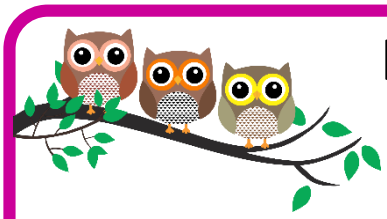


Higher Interleaving Quiz

Branch 3 Quiz 2

1) When water freezes to make ice it increases in volume by 9%.
What volume of water is needed to make $327cm^3$ of ice? ***(3 marks)***

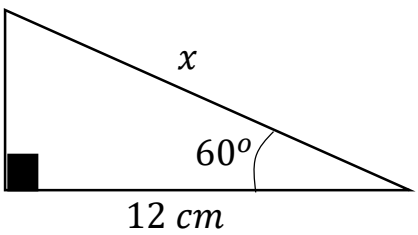
Answer: _____

2) Expand and simplify ***(3 marks)***

$$(2x-1)(x+4)(2x+5)$$

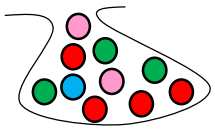
Answer: _____

3) Workout the length of x ***(3 marks)***



Answer: _____

4) 10 counters in a bag. 4 red, 3 green, 2 pink and 1 blue.



Ella picks a counter at random from the bag, notes the colour and then puts it back in the bag.

a) Ella uses this method to work out the probability of selecting 2 greens in a row.

She writes: "There are four colours, so the probability of selecting a green is $\frac{1}{4}+\frac{1}{4}=\frac{2}{4}$, so the probability is $\frac{1}{2}$."
a) Make two criticisms of Ella's method. ***(2 marks)***

Criticism 1: _____

Criticism 2: _____

b) Calculate the probability of selecting two counters of the same colour. ***(4 marks)***

Answer: _____

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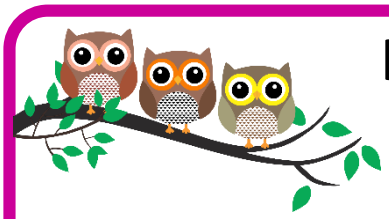


Higher Interleaving Quiz

Branch 3 Quiz 3

1) David invested £8600 for 5 years in a savings account. He was paid 2.6% compound interest per annum. ***(3 marks)***
How much did David have after 5 years?

Answer: _____

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

$$f(x) = 4x$$
$$g(x) = 5 + 2x$$

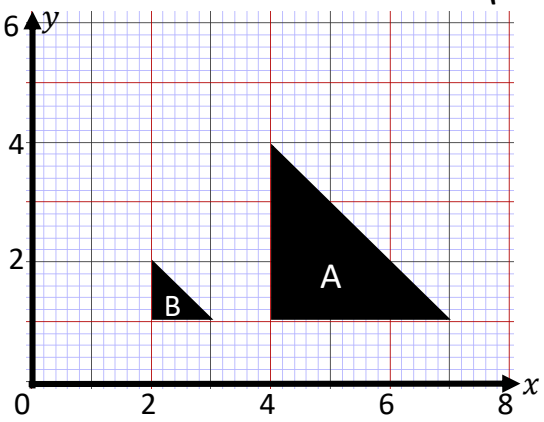
a) Calculate the value of $g(-3)$. ***(1 mark)***

Answer: _____

b) Calculate the value of $gf(4)$ ***(2 marks)***

Answer: _____

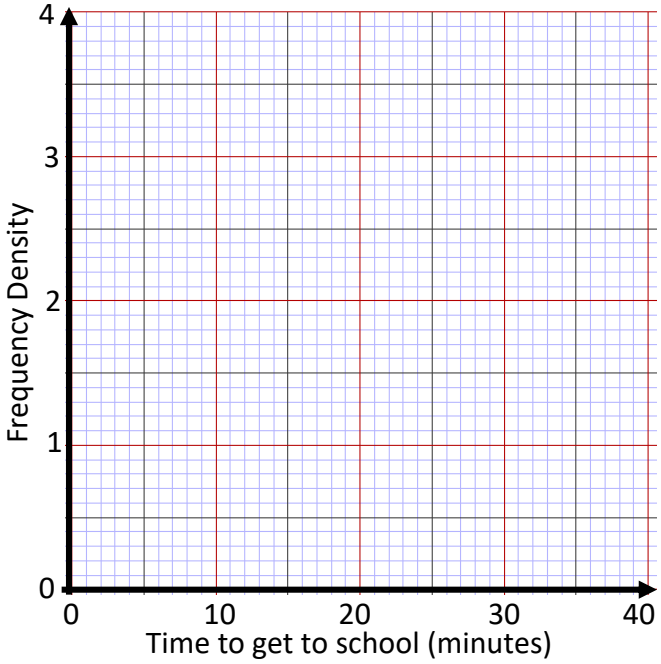
3) Describe fully the transformation of A onto B ***(3 marks)***



4) Elle asks 120 students how long it took them to travel to school. The results are shown in the table.

Time (t) in mins	Frequency		
$0 < t \leq 5$	15		
$5 < t \leq 10$	19		
$10 < t \leq 20$	38		
$20 < t \leq 30$	33		
$30 < t \leq 40$	15		

a) On the grid, draw a histogram for the information in the table. ***(4 marks)***



b) How many people did it take more than 25 minutes to get to school? ***(2 marks)***

Answer: _____

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