

# Art and Design – Year 11 GCSE

<b>Autumn Term</b>		
<b>What we are studying</b>	<b>What questions can you ask to support your child and stretch their thinking?</b>	<b>What do I do if my child was absent, or I want them to do extra work?</b>
<p>Students have 3 lessons of Art each week.</p> <p>GCSE Art and Design comprises 2 components.</p> <p>Component 1 (portfolio) students will complete their project <b>Identity</b> and realise intentions informed by research, the development and refinement of ideas and meaningful engagement with selected sources. Responses will include evidence of drawing for different purposes and needs, with written annotation and continue to explicitly address the requirements of all four assessment objectives (AOs):</p> <p>AO1: Develop ideas through investigations, demonstrating critical understanding of sources.</p> <p>AO2: Refine work by exploring ideas, selecting and experimenting with appropriate media, materials, techniques and processes.</p> <p>AO3: Record ideas, observations and insights</p>	<p><b>In which ways are you developing your theme of Identity?</b></p> <p><b>How does the study of different artists inspire your responses to the theme of Identity?</b></p> <p><b>Which other ways could you develop your research of ideas for the project?</b></p> <p><b>What are the reasons you need to annotate everything presented in your sketchbook?</b></p> <p><b>What is the purpose of exploring a range of different media, evidenced in your sketchbook?</b></p> <p><b>In which ways can you demonstrate recording</b></p>	<p>Encourage your child to practice observation drawing and recording relevant to their responses to <b>Identity</b> using different medium: for example using a pencil; ballpoint pen; fineliner pen; charcoal etc.</p> <p>These should be practiced or drawn in the back of the sketchbook, or on separate paper, and later will be included in relevant order.</p> <p>Check that every page in your child’s sketchbook has been annotated to explain their research and personal responses.</p> <p>If you want to support your child with extra work:</p> <p>Research Art and Design using BBC Bitesize:</p>

<p>relevant to intentions as work progresses.</p> <p>AO4: Present a personal and meaningful response that realises intentions and demonstrates understanding of visual language.</p> <p><i>In Component 2 (externally set assignment) students respond to a starting point provided by AQA in January 2023. Students need to respond to their project or theme and explicitly address the requirements of all four assessment objectives (AOs).</i></p>	<p><b>Identity, relevant to your course of study?</b></p> <p><b>How will your response to Identity (for AO4) make connections to the evidence (as demonstrated through the 4 Assessment Objectives) in your sketchbook?</b></p>	<p><a href="https://www.bbc.co.uk/bitesize/guides/zc7sfrd/revision/7">https://www.bbc.co.uk/bitesize/guides/zc7sfrd/revision/7</a></p> <p>If you have any questions specific to your child's work please email to: <a href="mailto:hwilley@arkacton.org">hwilley@arkacton.org</a></p>
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# Year 11 Business

Autumn Term		
What we are studying	What questions can you ask to support your child and stretch their thinking?	What do I do if my child was absent, or I want them to do extra work?
<p><b><u>Half Term 1</u></b></p> <p><b>Business growth</b></p> <ul style="list-style-type: none"> <li>- Methods of business growth</li> <li>- Internal Vs External growth</li> <li>- Sources of finance for growth</li> <li>- Aims and objectives</li> <li>- Business change</li> <li>- Globalisation</li> <li>- Barriers to trade</li> <li>- International competition</li> <li>- Marketing mix in practice</li> </ul>	<ol style="list-style-type: none"> <li>1) <b>What are the three different methods of business growth?</b></li> <li>2) <b>What are the methods of internal growth?</b></li> <li>3) <b>What are the methods of external growth?</b></li> <li>4) <b>Why does a business want to grow?</b></li> <li>5) <b>What are the different sources of finance?</b></li> <li>6) <b>What are the benefits and drawbacks of each method?</b></li> <li>7) <b>What is the difference between financial and non-financial aims.</b></li> <li>8) <b>How does a business change their aims?</b></li> <li>9) <b>Why does a business change its aims?</b></li> <li>10) <b>What does globalisation mean?</b></li> <li>11) <b>What are the main barriers of</b></li> </ol>	<p>Seneca learning modules</p> <p>GCSE Bitesize</p> <p>Youtube – Bizconsesh channel</p>

<p><b><u>Half Term 2</u></b></p> <p>Impact of ethics, the environment and business</p> <ul style="list-style-type: none"> <li>- Ethical considerations</li> <li>- Sustainability</li> <li>- Marketing for the environment</li> <li>- Pressure groups</li> <li>- Unethical pressure groups</li> </ul>	<p><b>international trade?</b></p> <p>12) <b>What is the impact of BOT to smaller businesses?</b></p> <ol style="list-style-type: none"> <li>1) <b>What is the definition of an ‘ethical business?’</b></li> <li>2) <b>Can you justify the trade off between ethics and profit?</b></li> <li>3) <b>How can ethics be used as an effective marketing tool?</b></li> <li>4) <b>What is sustainable growth?</b></li> <li>5) <b>Why don’t all businesses want to benefit from sustainable growth?</b></li> <li>6) <b>What are pressure groups?</b></li> <li>7) <b>What are the impact of pressure groups?</b></li> <li>8) <b>Can you explain the negatives pressure groups can cause?</b></li> </ol>	
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# Year 11 GCSE English Poetry

Autumn Term		
What we are studying	What questions can you ask to support your child and stretch their thinking?	What do I do if my child was absent, or I want them to do extra work?
<p>An anthology of fifteen classic and modern poems.</p> <p>Each explores the themes of power and conflict.</p> <p>In their GCSE Literature Paper 2, students write an essay comparing a named poem with one of their choosing.</p>	<ol style="list-style-type: none"> <li>1. Tell me three quotations from Ozymandias, London and My Last Duchess.</li> <li>2. Ask your child to point to a quotation in any poem then ask them to explain how the poet uses words, imagery or sound to create an effect on the reader.</li> <li>3. Ask your child to quote the last two lines of every poem in the anthology off by heart.</li> </ol>	<p>Students should work until they have completed 100% of this revision course on Century Tech:</p> <p><a href="https://app.century.tech/learn/my-courses/study-groups/b6315936-4c2f-4b9f-b4c7-c2ca8937ec97">https://app.century.tech/learn/my-courses/study-groups/b6315936-4c2f-4b9f-b4c7-c2ca8937ec97</a></p>

# Year 11 French

Autumn Term		
What we are studying	What questions can you ask to support your child and stretch their thinking?	What do I do if my child was absent, or I want them to do extra work?
<p><b><u>Half Term 1</u></b></p> <p><b><u>Content:</u></b> This unit will give students the opportunity to talk about family and relationships. We will work on giving different detailed opinions, as well as getting acquainted with the imperfect tense.</p> <p><i>Tu t'entends bien avec ta famille ?</i> <i>Comment étais-tu quand tu étais plus jeune ?</i> <i>C'est quoi un bon ami pour toi ?</i> <i>Qui est ton modèle ?</i></p> <p><b><u>Half Term 2</u></b></p> <p><b><u>Content:</u></b> This half term, we will focus on free time and festivities. We will also discuss the advantages and dangers of social media. We will get more confident with the use of 3 different tenses in a paragraph.</p> <p><i>Qu'est-ce que tu fais pendant ton temps libre ?</i></p>	<p>Do you get on well with your family? why? Talk about your childhood What did you use to like and do? How is your best friend? What are the qualities of a good friend? Do you have a role model?</p> <p>What do you like to do? What did you do recently? What are you going to do next weekend? What do you do when you are connected to the internet? What are the advantages and dangers of social media? What is your favourite festivity?</p>	<p>Log in to <a href="http://languagenut.com">languagenut.com</a> Work related to the topics will be set up.</p>

<b><i>Que fais-tu quand tu es connecté ? Que penses-tu des réseaux sociaux ? Quelle est ta fête préférée ?</i></b>	<b>Why do you think national celebrations are important?</b>	
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# Year 11 History

Autumn Term		
What are we studying? (Our Enquiries)	What questions can you ask to support your child and stretch their thinking?	What do I do if my child was absent, or I want them to do extra work?
<p><b>Edexcel GCSE</b> <b>Paper 3: Modern depth study</b> <b>Option 31: Weimar and Nazi Germany, 1918–39</b></p> <p><b>Our Enquiry:</b> <b>‘Why did Hitler rise to power in 1933?’</b></p> <p><b>Content:</b></p> <ol style="list-style-type: none"> <li>1. What kind of country were Germans fighting for in WW1?</li> <li>2. Why did the Kaiser abdicate in 1918?</li> <li>3. How did Ebert keep control of Germany during the ‘Revolution’?</li> <li>4. What were the key features of the Weimar constitution?</li> <li>5. How did the Treaty of Versailles cause problems for the Weimar Republic?</li> <li>6. How was the Weimar Republic challenged between 1919-1920?</li> <li>7. How do I evaluate the utility of a historical source?</li> <li>8. What were the causes and consequences of Hyperinflation in 1923?</li> </ol>	<p><b>‘Why did Hitler rise to power in 1933?’</b></p> <ol style="list-style-type: none"> <li>1. How did the modern state of Germany form?</li> <li>2. What were the key features of Germany before the outbreak of the First World War?</li> <li>3. Why did the results of the First World War shock Germans?</li> <li>4. What were the circumstances Kaiser Wilhelm II found himself in November 1918?</li> <li>5. Who did Ebert need to rely on to support his position from 1918-1919?</li> <li>6. What did Ebert do to gather support from these groups?</li> <li>7. How secure was democracy in Germany by 1919?</li> <li>8. How was the government of the Weimar republic formed?</li> <li>9. How was the parliament of the Weimar republic formed?</li> <li>10. Why would Coalition governments pose a potential problem for the Weimar Republic?</li> <li>11. What problems would Article 48 pose for the future?</li> </ol>	<p>If your child is absent:</p> <ol style="list-style-type: none"> <li>1. Test your child using the knowledge booklet</li> <li>2. Use the booklet to go through any missed lesson(s). The booklet contains everything from the purpose of each lesson to the readings and learning activities</li> <li>3. Use Seneca to go through the assigned course ‘History: Edexcel GCSE Germany, 1918-1939’</li> </ol> <p>If you want to support your child with extra work:</p> <ol style="list-style-type: none"> <li>4. <a href="https://www.bbc.co.uk/bitesize/topics/zymqwx">https://www.bbc.co.uk/bitesize/topics/zymqwx</a></li> <li>5. Use the additional Knowledge Organisers and Model Answer documents to help with exam questions</li> </ol>

<ol style="list-style-type: none"> <li>9. How do I explain the difference between historical interpretations?</li> <li>10. How did Hitler develop the Nazi Party between 1920-1922?</li> <li>11. Why did the Munich Putsch fail?</li> <li>12. How did the Nazi Party change its tactics between 1924 and 1928?</li> <li>13. How successfully did Stresemann solve the problems of the Weimar Government?</li> <li>14. How far do you agree with Interpretation 2 about the success of Stresemann's policies during the Weimar Golden Age?</li> <li>15. How far did German Society change between 1924 and 1929?</li> <li>16. Why did Support for the Weimar Republic fall between 1929 and 1932?</li> <li>17. Why did Nazi support increase so dramatically between 1929-1932?</li> <li>18. Why was Hitler elected Chancellor in 1933?</li> </ol>	<ol style="list-style-type: none"> <li>12. Why was the Treaty of Versailles signed in 1919?</li> <li>13. What were the terms of the Treaty?</li> <li>14. Why were Germans deeply unhappy with the Treaty of Versailles?</li> <li>15. How was the Weimar Republic challenged by right wing groups?</li> <li>16. How was the Weimar Republic challenged by Communist groups?</li> <li>17. What were the causes of Hyperinflation?</li> <li>18. What were the consequences of Hyperinflation?</li> <li>19. What did Stresemann do in the short term to deal with the Hyperinflation crises?</li> <li>20. What did Stresemann do in the long term to deal with the Hyperinflation crises?</li> <li>21. What are the origins of the Nazi party?</li> <li>22. What was Hitler's role in the early Nazi party?</li> <li>23. Why did the Munich Putsch fail?</li> <li>24. Why do some historians say there was a golden age from 1924-1928 in Weimar Germany?</li> <li>25. What were the 'lean years' for the Nazi party?</li> <li>26. What was the impact of the Wall Street Crash on Germany in 1929?</li> <li>27. How did the Nazi party use the Wall Street Crash to their advantage?</li> <li>28. What long term reasons led to the increased support of the Nazi party after 1929?</li> </ol>	
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	<p>29. What short term reasons led to the increased support of the Nazi party after 1929?</p> <p>30. What role did Von Papen play in Hitler becoming Chancellor in 1933?</p>	
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# Maths: Year 11 Foundation

What we are studying	What questions can you ask to support your child and stretch their thinking?	What do I do if my child was absent, or I want them to do extra work?																																																
<p><b>Half Term 1</b></p> <p>Frequency tables and statistical graphs:</p> <ul style="list-style-type: none"> <li>• Completing and interpreting frequency tables (extracting raw data, finding the largest and smallest value, etc)</li> <li>• Finding the mean, mode, range and median from a frequency table (grouped and ungrouped)</li> <li>• Constructing more complex statistical graphs and finding averages from these graphs</li> </ul>	<p><b>Calculate the mean number of score.</b></p> <table border="1" data-bbox="618 569 808 848"> <thead> <tr> <th>Score</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>0</td><td>0</td></tr> <tr><td>1</td><td>2</td></tr> <tr><td>2</td><td>3</td></tr> <tr><td>3</td><td>3</td></tr> <tr><td>4</td><td>2</td></tr> <tr><td>5</td><td>0</td></tr> <tr><td>Total</td><td>10</td></tr> </tbody> </table> <p><b>Calculate the mean mark from the grouped frequency table.</b></p> <table border="1" data-bbox="618 1037 1013 1276"> <thead> <tr> <th>Mark</th> <th>Frequency</th> <th>Midpoint</th> <th>F x M</th> </tr> </thead> <tbody> <tr><td>0 &lt; m ≤ 30</td><td>4</td><td>15</td><td></td></tr> <tr><td>30 &lt; m ≤ 40</td><td>6</td><td></td><td></td></tr> <tr><td>40 &lt; m ≤ 50</td><td>7</td><td>45</td><td></td></tr> <tr><td>50 &lt; m ≤ 60</td><td>8</td><td>55</td><td></td></tr> <tr><td>60 &lt; m ≤ 80</td><td>16</td><td>70</td><td></td></tr> <tr><td>80 &lt; m ≤ 100</td><td>9</td><td></td><td></td></tr> <tr><td>Total</td><td>50</td><td></td><td></td></tr> </tbody> </table> <p><b>Calculate the median of the set of numbers.</b></p> <p>3, 7, 12, 6, 19, 12.5, 14.5, 5</p> <p><b>What is the largest number in the stem and leaf diagram?</b></p>	Score	Frequency	0	0	1	2	2	3	3	3	4	2	5	0	Total	10	Mark	Frequency	Midpoint	F x M	0 < m ≤ 30	4	15		30 < m ≤ 40	6			40 < m ≤ 50	7	45		50 < m ≤ 60	8	55		60 < m ≤ 80	16	70		80 < m ≤ 100	9			Total	50			<p><a href="https://sparxmaths.com/">https://sparxmaths.com/</a></p> <p><a href="http://www.senecalearning.com">www.senecalearning.com</a></p> <p><a href="http://www.bbc.co.uk/bitesize">www.bbc.co.uk/bitesize</a></p> <p><a href="http://www.khanacademy.org">www.khanacademy.org</a></p> <p><a href="https://classroom.thenational.academy/units/frequency-charts-data-collection-bar-and-pictograms-1f5e">https://classroom.thenational.academy/units/frequency-charts-data-collection-bar-and-pictograms-1f5e</a></p> <p><a href="https://classroom.thenational.academy/units/averages-from-a-list-and-tables-stem-and-leaf-2afc">https://classroom.thenational.academy/units/averages-from-a-list-and-tables-stem-and-leaf-2afc</a></p> <p><a href="https://classroom.thenational.academy/units/charts-and-tables-pie-chart-and-two-way-tables-f292">https://classroom.thenational.academy/units/charts-and-tables-pie-chart-and-two-way-tables-f292</a></p> <p><a href="https://classroom.thenational.academy/units/scatter-diagrams-and-frequency-trees-1bf2">https://classroom.thenational.academy/units/scatter-diagrams-and-frequency-trees-1bf2</a></p>
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Polygons:

- Naming polygons, finding total interior angles, finding number of sides given interior sum
- Missing angles in regular and irregular polygons, symmetry and equal angles
- Missing angles in regular polygons (including simple cases of substitution, forming expressions and setting up equations)
- Exterior angles of polygons, finding missing angles, using an exterior angle to find the number of sides

$$\begin{array}{r}
 5 \ 2 \ 4 \ 8 \ 9 \\
 7 \ 0 \ 1 \ 2 \ 5 \ 7 \\
 8 \ 2 \ 3 \ 8 \\
 9 \ 4 \ 8 \\
 \hline
 \end{array}$$

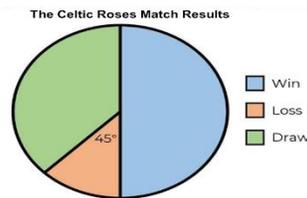
Key  
5 | 2 = 52

**How many people ate cereal for breakfast?**

	Orange Juice	Apple Juice	Milk	Total
Cereal	16	25		
Toast			12	53
Total		48		120

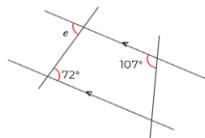
A	53	B	77
C	120	D	67

**If the total matches played is 24, how many matches did the Celtic Roses win?**



A	180	B	3
C	12	D	9

3) Find the size of angle e.



- a) 107°
- b) 72°
- c) 73°
- d) 108°

<https://classroom.thenational.academy/units/polygons-2-interior-and-exterior-043c>

<https://classroom.thenational.academy/units/standard-form-writing-and-converting-f42a>

<https://classroom.thenational.academy/units/standard-form-4-operations-56a8>

<https://classroom.thenational.academy/units/probability-1-scale-and-equally-likely-events-151d>

<https://classroom.thenational.academy/units/probability-2-sample->

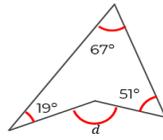
Standard Index Form:

- Comparing numbers in SIF
- Converting to and from SIF, adjusting numbers not quite in SIF (e.g.  $14 \times 103$ )
- Multiplying and dividing with SIF
- Worded questions with SIF (eg comparing values in a table, deciding which two values are furthest apart)

Listing outcomes, probability, and combined information:

- Placing on a scale (interpreting situations and worded contexts; classic misconceptions (e.g.  $P(3)$  is  $\frac{1}{2}$  of  $P(6)$  for dice)
- Calculating probabilities from a list of outcomes, and the probability of something not happening
- Collectively exhaustive outcomes (tables summing to 1)

2) Calculate the size of angle  $d$ .



- a)  $223^\circ$
- b)  $137^\circ$
- c)  $43^\circ$

What is the sum of exterior angles of any polygon?

What is the size of each exterior angle of a regular 15-sided polygon?

Work out the missing index number for the calculation  $2.650 \times 10^n = 2650$

Write 280,000 in standard form.

Write one million in standard form.

Why is  $78.12 \times 10^5$  not a standard form number?

Which number is smaller?  $3 \times 10^4$  or  $4 \times 10^3$

Write  $4 \times 10^{-3}$  in ordinary form.

Work out  $(2 \times 10^3) \times (4 \times 10^2)$ . Give your answer in standard form.

[space-venn-diagrams-and-experimental-e6cc](https://classroom.thenational.academy/units/probability-3-tree-diagrams-53c5)

<https://classroom.thenational.academy/units/probability-3-tree-diagrams-53c5>

<https://classroom.thenational.academy/units/translate-and-vectors-1-4275>

<https://classroom.thenational.academy/units/vectors-2-429e>

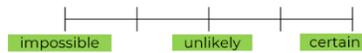
<https://classroom.thenational.academy/units/reflection-7c02>

<https://classroom.thenational.academy/units/rotation-and-enlargement-ddac>

- Expected outcomes, relative frequency and identifying bias
- Independent events
- Probability trees
- Combined events and sample-space diagrams

Work out  $(8.4 \times 10^6) \div (4 \times 10^2)$ . Give your answer in standard form.

Alice is labelling the probability scale. Can you spot her mistake?

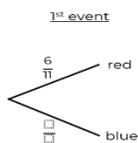


A six-sided fair dice is rolled.  
What is the probability of not rolling a 3?

A	B	C
$\frac{2}{6}$	$\frac{3}{6}$	$\frac{5}{6}$

Dexter, Rosie and Sunil are playing a game with a six-sided die. Dexter wins if he rolls an even number. Rosie wins if she rolls a number greater than 4. Sunil wins if he rolls a 5. Which player is more likely to win?

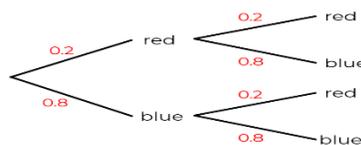
Here is the first branch of a probability tree diagram.



What should the missing probability be?

A	B	C	D
$\frac{5}{11}$	$\frac{6}{22}$	$\frac{12}{22}$	$\frac{6}{17}$

For the probability tree shown, which calculation will find the probability of red followed by blue happening?



Some boys and girls were asked

## Half Term 2

Transformations and vectors:

- Completing a rotation
- Completing reflections (including on axes), finding mirror lines
- Translation with vectors
- Enlarging a shape, including non-integer scale factors and enlarging from a point
- Describing transformations

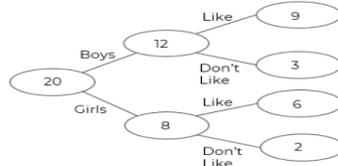
<https://classroom.thenational.academy/units/simultaneous-equations-linear-64b3>

<https://classroom.thenational.academy/units/rounding-and-estimating-2f3b>

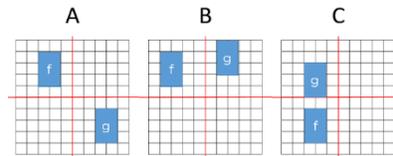
<https://classroom.thenational.academy/units/travel-graphs-04fc>

- Calculations with column vectors
- Drawing a vector, or finding a vector from a drawing
- Column vectors as variables (a, -a, a+b, 2a, etc)
- Finding vectors in shapes (using a and b to represent column vectors)

if they like football. The information is presented in the frequency tree. How many of the boys and girls did not like football?



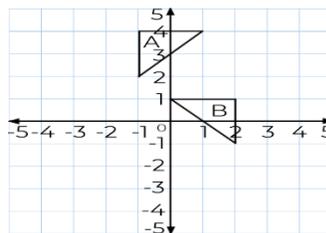
Which image shows a translation of f to g of 5 to the right and 1 up?



Describe the vector shown?

$$\begin{pmatrix} 2 \\ 6 \end{pmatrix}$$

Shape A has been rotated 90° clockwise onto shape B. What is the centre of rotation?



Simultaneous equations:

- Simple simultaneous equations (no scaling or multiplying needed)
- Simultaneous equations with scaling and multiplying
- Worded simultaneous equations
- Solving simultaneous equations graphically (including cases of being given two lines and having to construct the

<https://classroom.thenational.academy/units/parts-of-circles-1-semi-and-quarter-circles-b052>

<https://classroom.thenational.academy/units/volume-and-surface-area-1-prisms-f8ea>

graph to solve the equations)

Error intervals:

- Rounding, bounds and error intervals
- Truncation and error intervals

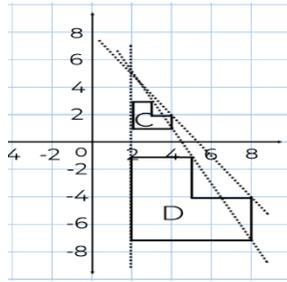
Real-life graphs:

- Distance-time graphs – constructing, interpreting, calculating speed
- Speed-time graphs – constructing, interpreting, calculating distance
- Other real-life graphs – constructing, interpreting (e.g. filling a bath, cost of a taxi, cost of a rental  interpreting y-intercept and gradient)
- Comparing two lines on a graph (e.g. prices of taxis, races run, journeys taken)

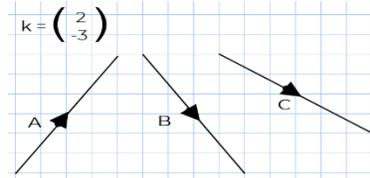
Sectors and cylinders:

- Circles – applied questions (e.g. compound shapes)

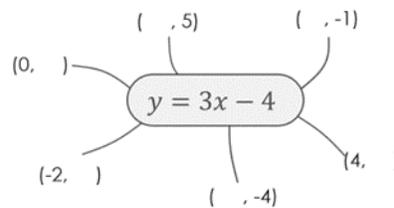
State the centre of enlargement from shape C to D.



Which image shows  $2k$ ?

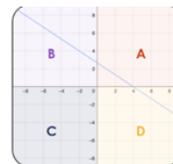


Complete the solutions to this equation.



In which quadrant would these two lines cross?

$2x + 3y = 8$   
and  
 $y = 2x$



The equation.  $2y - 3x = 5$  Write down the equation of another line whose solution with the first equation has. Draw the graphs for your equations and estimate their solutions with the first equation.

- Sectors – find perimeter and area
- Surface area of cylinders
- Volume of cylinders

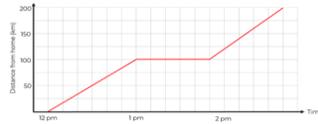
Which of the following is the upper bound for 345.8 when rounded to one decimal place.

- A 345.75      B 345.849999      C 345.85

Which of the following is the lower bound for 154000 when rounded to three significant figures.

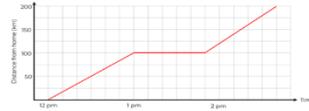
- A 154500      B 154499      C 153500

1. The graph shows David's journey from home. How long did it take David to travel 50 km?



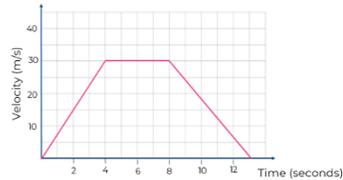
- a) 60 minutes  
b) 12:30 pm  
c) 30 minutes  
d) 40 minutes

3. The graph shows David's journey from home. How long did David stop for?

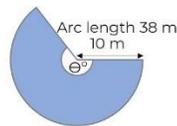


- a) 1 hour  
b) 1 hour and 50 minutes  
c) 50 minutes  
d) 20 minutes

2. The velocity time graph shows the first 13 seconds of a car journey. Calculate the acceleration between 2 and 4 seconds.



- a) 30 m/s  
b) 15 m/s  
c) 7.5 m/s

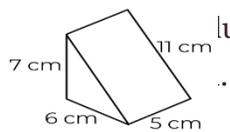


- A 298°      B 217°  
C 297°      D 218°

Calculate the surface area of the cube.

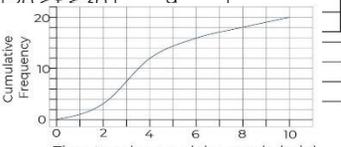
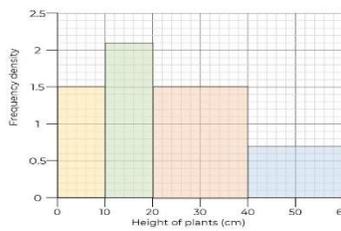


The surface area of a cube is  $96 \text{ cm}^2$ . What is the length of the cube?



Volume of the

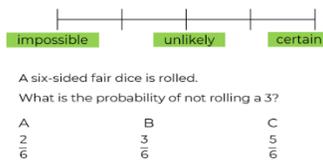
# Maths: Year 11 Higher

What we are studying	What questions can you ask to support your child and stretch their thinking?	What do I do if my child was absent, or I want them to do extra work?																																						
<p><b>Half Term 1</b></p> <p>Interpreting data:</p> <ul style="list-style-type: none"> <li>Infer properties of populations or distributions from a sample, while knowing the limitations of sampling</li> <li>Interpret and construct tables, charts and diagrams, including frequency tables, bar charts, pie charts and pictograms for categorical data, vertical line charts for ungrouped discrete numerical data, tables and line graphs for time series data, and know their appropriate use</li> <li>Construct and interpret diagrams for grouped discrete data and continuous data, i.e. histograms with equal and unequal class intervals and cumulative frequency graphs, and know their appropriate use           <ul style="list-style-type: none"> <li>appropriate graphical representation involving discrete, grouped data, <b>including box plots</b></li> <li>appropriate measures of central tendency (median, mean, modal class) and spread (range, including consideration of <b>quartiles and inter-quartile range</b>)</li> </ul> </li> <li>Interpret, analyse and compare the distributions of data sets from univariate empirical distributions through:</li> </ul>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><math>10 &lt; t \leq 20</math></td> <td style="width: 50%; text-align: center;">14</td> </tr> <tr> <td><math>20 &lt; t \leq 30</math></td> <td style="text-align: center;">9</td> </tr> <tr> <td><math>30 &lt; t \leq 40</math></td> <td style="text-align: center;">4</td> </tr> </table>  <p style="text-align: center;">Time to solve a sudoku puzzle (min)</p> <table style="width: 100%;"> <tr> <td>A 5 minutes</td> <td>B 10 minutes</td> </tr> <tr> <td>C 3.8 minutes</td> <td>D 3.5 minutes</td> </tr> </table> </div> <p>What is the total frequency?</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">  <p style="text-align: center;">Height of plants (cm)</p> <table style="width: 100%;"> <tr> <td>A 21</td> <td>B 80</td> </tr> <tr> <td>C 100</td> <td>D 5.8</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Time (min)</th> <th>Frequency</th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td><math>0 &lt; t \leq 20</math></td> <td style="text-align: center;">3</td> <td style="text-align: center;">★</td> <td></td> </tr> <tr> <td><math>20 &lt; t \leq 25</math></td> <td style="text-align: center;">14</td> <td></td> <td></td> </tr> <tr> <td><math>25 &lt; t \leq 30</math></td> <td style="text-align: center;">9</td> <td></td> <td></td> </tr> <tr> <td><math>30 &lt; t \leq 40</math></td> <td style="text-align: center;">4</td> <td></td> <td></td> </tr> </tbody> </table>  <p style="text-align: center;">0 2 4 6 8 10 12 14 16</p> <table style="width: 100%;"> <tr> <td>A 3</td> <td>B 14</td> </tr> <tr> <td>C 7</td> <td>D 8</td> </tr> </table> </div> <p>There are 10 counters in a bag. 4 counters are green, and 6 counters are blue. Two counters are selected at random. If you want to calculate the probability that both are green, what calculation should you do?</p>	$10 < t \leq 20$	14	$20 < t \leq 30$	9	$30 < t \leq 40$	4	A 5 minutes	B 10 minutes	C 3.8 minutes	D 3.5 minutes	A 21	B 80	C 100	D 5.8	Time (min)	Frequency			$0 < t \leq 20$	3	★		$20 < t \leq 25$	14			$25 < t \leq 30$	9			$30 < t \leq 40$	4			A 3	B 14	C 7	D 8	<p><a href="https://sparxmaths.com/">https://sparxmaths.com/</a></p> <p><a href="http://www.senecalearning.com">www.senecalearning.com</a></p> <p><a href="http://www.bbc.co.uk/bitesize">www.bbc.co.uk/bitesize</a></p> <p><a href="http://www.khanacademy.org">www.khanacademy.org</a></p> <p><a href="https://classroom.thenational.academy/units/data-collection-higher-b22e">https://classroom.thenational.academy/units/data-collection-higher-b22e</a></p> <p><a href="https://classroom.thenational.academy/units/higher-data-1-cf-and-box-plots-bcfa">https://classroom.thenational.academy/units/higher-data-1-cf-and-box-plots-bcfa</a></p> <p><a href="https://classroom.thenational.academy/units/histograms-5101">https://classroom.thenational.academy/units/histograms-5101</a></p>
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Probability:

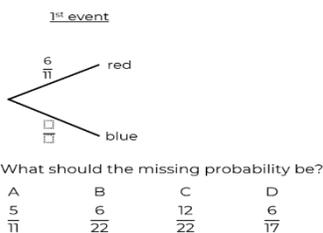
- Record, describe and analyse the frequency of outcomes of probability experiments using tables and frequency trees
- Apply ideas of randomness, fairness and equally likely events to calculate expected outcomes of multiple future experiments
- Relate relative expected frequencies to theoretical probability, using appropriate language and the 0-1 probability scale
- Apply the property that the probabilities of an exhaustive set of outcomes sum to one; apply the property that the probabilities of an exhaustive set of mutually exclusive events sum to one
- Understand that empirical unbiased samples tend towards theoretical probability distributions, with increasing sample size
- Enumerate sets and combinations of sets systematically, using tables, grids, Venn diagrams and tree diagrams
- Construct theoretical possibility spaces for single and combined experiments with equally likely outcomes

Alice is labelling the probability scale. Can you spot her mistake?

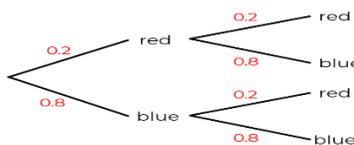


Dexter, Rosie and Sunil are playing a game with a six-sided die. Dexter wins if he rolls an even number. Rosie wins if she rolls a number greater than 4. Sunil wins if he rolls a 5. Which player is more likely to win?

Here is the first branch of a probability tree diagram.



For the probability tree shown, which calculation will find the probability of red followed by blue happening?



Some boys and girls were asked if they like football. The information is presented in the frequency tree. How many of the boys and girls did not like

<https://classroom.thenational.academy/units/probability-2-sample-space-venn-diagrams-and-experimental-e6cc>

<https://classroom.thenational.academy/units/probability-3-tree-diagrams-53c5>

<https://classroom.thenational.academy/units/higher-probability-conditional-and-further-set-notation-f690>

and use these to calculate theoretical probabilities

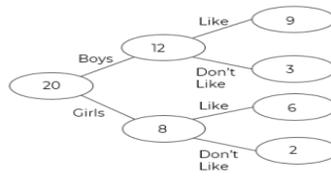
- Calculate the probability of independent and dependent combined events, including using tree diagrams and other representations, and know the underlying assumptions
- Calculate and interpret conditional probabilities through representation using expected frequencies with two-way tables, tree diagrams and Venn diagrams

### Half Term 2

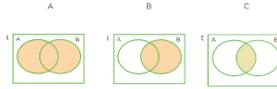
Further Stats:

- Apply statistics to describe a population
- Use and interpret scatter graphs of bivariate data; recognise correlation and know that it does not indicate causation; draw estimated lines of best fit; make predictions; interpolate and extrapolate apparent trends while knowing the dangers of so doing

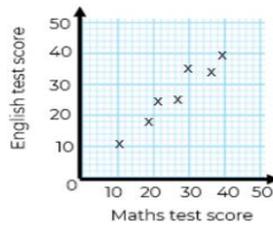
football?



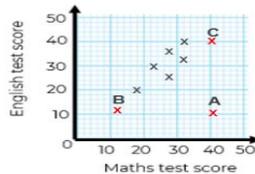
1 Which diagram represents A ∪ B?



The scatter graph shows the scores on a Maths test and the scores on an English test. What type of correlation does the graph show?



The scatter graph shows the scores on a Maths test and the scores on an English test. Which point would be considered as an outlier?



# RE – Year 11 AQA Islam Beliefs and Teachings

Autumn Term		
What we are studying	What questions can you ask to support your child and stretch their thinking?	What do I do if my child was absent, or I want them to do extra work?
<p><b>Year 10: <i>What does Islam teach us about believing, thinking, and living?</i></b></p> <p><b>Content:</b></p> <ol style="list-style-type: none"> <li>1. What is the Oneness of God and the supremacy of God's will?</li> <li>2. If there is Tawhid why is there a split in Islam?</li> <li>3. What is the best way to describe God?</li> <li>4. How important are angels in Islam?</li> <li>5. What influence does belief in life after death have on the life of a Muslim?</li> </ol>	<p>Questions based on the specification for AQA GCSE Paper 1: Islam</p> <ol style="list-style-type: none"> <li>1. Is Islam a monotheistic religion?</li> <li>2. What are 6 key characteristics of Allah?</li> <li>3. What does merciful mean?</li> <li>4. What does omnipotent mean?</li> <li>5. What does benevolent mean?</li> <li>6. What does just mean?</li> <li>7. What does immanent mean?</li> <li>8. What does transcendent mean?</li> <li>9. What does Tawhid mean?</li> <li>10. What are the key lines of Surah 112?</li> <li>11. What does begotten mean?</li> <li>12. What are the 2 main traditions in Islam?</li> <li>13. What are the similarities between Sunni and Shi'a Islam?</li> <li>14. What is a key difference between Sunni and Shi'a Islam?</li> <li>15. What are the six articles of faith in Sunni Islam?</li> </ol>	<p>If your child is absent:</p> <ol style="list-style-type: none"> <li>1. Test your child using the knowledge booklet</li> <li>2. Test your child using reference to scripture section of the course companion</li> </ol> <p>If you want to support your child with extra work:</p> <ol style="list-style-type: none"> <li>3. Research Islam using BBC Bitesize</li> </ol> <p><a href="https://www.bbc.co.uk/bitesize/topics/z4v7gwx">https://www.bbc.co.uk/bitesize/topics/z4v7gwx</a></p>

<p>6. What is the prophethood?</p> <p>7. Who is Muhammad and the Imamate?</p> <p>7. What influence does the crucifixion have on Christians?</p> <p>8. How does the resurrection underpin salvation?</p>	<p>16. What are the five articles of faith in Shi'a Islam?</p> <p>17. What is the purpose of angels?</p> <p>18. What do angels do?</p> <p>19. Why is Angel Jibril important?</p> <p>20. Why is angel Mika'il important?</p> <p>21. What is Al-Qadr (predestination)?</p> <p>22. What do Sunnis believe about judgement?</p> <p>23. What do Shi'as believe about judgement?</p> <p>24. What happens on Day of Judgement?</p> <p>25. What is Akhirah?</p> <p>26. Who was the first Prophet?</p> <p>27. What is a key event in Prophet Ibrahim's life?</p> <p>28. Who was called 'seal of the prophets'?</p> <p>29. Why is the revelation to Prophet Muhammad important?</p> <p>30. Is the Qur'an regarded as the most important holy book?</p> <p>31. What do Muslims believe about other holy books?</p> <p>32. What is the Tawrat? (Torah)</p> <p>33. What is the Zabur? (Psalms)</p> <p>34. What is the Injil? (Gospel)</p> <p>35. What is the Hadith?</p> <p>36. What is the Sunnah?</p> <p>37. What is the purpose of the Hadith and Sunnah?</p> <p>38. What is the Imamate?</p>	
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# Science – Year 11

Autumn Term		
What we are studying	What questions can you ask to support your child and stretch their thinking?	What do I do if my child was absent, or I want them to do extra work?
<p>Combined Sciences (+ <i>Separate Sciences</i>)</p> <p>B5.1 Feedback and Control- includes hormones, control of blood glucose levels, the nervous system (<i>plant hormones, the brain and the eye</i>)</p> <p>B5.2 Controlling Reproduction- includes menstrual cycle, sexual and asexual reproduction, contraception, and fertility treatment</p> <p>C5.1 Quantitative chemistry- includes relative formula mass, moles, concentration (<i>titration, atom economy, percentage yield</i>)</p> <p>C5.2 Controlling reactions- includes rates of reaction</p> <p>P5.1 Force Fields- includes electromagnetism (<i>Space fields</i>)</p>	<p>Look at the knowledge organiser in the booklet for the topic and ask them about it</p> <p>Explain how the Endocrine (hormonal) system maintains homeostasis</p> <p>How does the nervous system allow us to respond to changes in our environment?</p> <p>What happens during the menstrual cycle?</p> <p>What are the different methods of contraceptions and why do people choose to use them?</p> <p>How do you calculate the number of moles of a substance in 30g?</p> <p>Explain the different factors that affect rate of reactions</p> <p>How does a motor work?</p>	<p><a href="#">YouTube – MyGCSEScience</a></p> <p><a href="#">BBC Bitesize – GCSE Science</a></p> <p><a href="#">Seneca – Students are using this for homework already</a></p> <p><a href="#">Physics and maths tutor – exam practice</a></p>

<p>P5.2 Electromagnetic radiation- includes electromagnetic radiation <i>(lenses)</i></p>	<p>What are the benefits and hazards of using electromagnetic radiation?</p>	
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