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| **Core Knowledge Map** |
| Subject: **Mathematics** | Year: 10 | Term: Summer 1 |
| What are we learning? |
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| **Unit 9b: Linear Graphs and Coordinate Geometry** | **Sparx IL Codes** | Sad face outline with solid fill | Nervous face outline with solid fill | Smiling face outline with solid fill |
| Find the coordinates of the midpoint of a line segment from coordinates | U933 |  |  |  |
| Calculate the length of a line segment given the end points. | U385 |  |  |  |
| To know and use y – y1 = m(x-x1) for the equation of a straight line | - |  |  |  |
| Find information from more complex diagrams using multiple steps | - |  |  |  |

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| How will I be assessed  |
| Retrieval Tasks, Exit tickets, end of half-term test. |
| Big questions: |
| Can you….?* Find the midpoint of line segment AB where A is (2,5) and B is (8, -7)
* Find the length of line segment AB where A is (2,5) and B is (8, -7)
* Find the equation of a line AB where A is (2,5) and B is (8, -7)
* Find the y intercept of a line perpendicular to the line segment AB and passing through the midpoint of AB where A is (2,5) and B is (8, -7)
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| How does this build on previous learning? | How will this link to my future learning? |
| * Properties of parallel and perpendicular lines.
* Using y = mx + c and ax + by = c to represent straight line graphs
* Pythagoras’ Theorem
 | * GCSE synoptic and multi-step problem solving questions.
* Circle theorems and circle geometry
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| Core knowledge: | Key vocabulary: |
| $$gradient= \frac{change in y}{change in x}= \frac{Δy}{Δx}$$Equation of a straight line can also be given by**:**$$y- y\_{1}=m(x- x\_{1})$$$$midpoint= \left(\frac{x\_{1}+ x\_{2}}{2} , \frac{y\_{1}+ y\_{2}}{2}\right)$$$$distance= \sqrt{(x\_{2}- x\_{1})^{2}+( y\_{2}- y\_{1})^{2}}$$ | CoordinatesMidpointLine segmentLinearParallelPerpendicular |
| Need more help? Use the Sparx Independent Learning Codes above |