

OCR Core 1

Coordinate geometry

Section 1: Coordinates, points and lines

Study Plan

Background

You will have met much of this work before at G.C.S.E.. The extra parts are extensions of what you already know. The formulae that are included need to be learnt so that they are at your fingertips and can be used in this topic and in later ones too.

Detailed work plan



1. Read section 1.1 (pages 3 – 5). This looks at finding the distance between two points. There is an additional example in the [Notes and Examples](#).



2. For further examples look at the Flash resource [Distance between two points](#).



3. **Exercise 1A**
Attempt at least half the parts of question 1, and questions 2, 4 and 6.



4. For extra practice try the interactive questions [The distance between two points](#).



5. Read section 1.2 (pages 6 – 7), which looks at finding the midpoint of two points. There is an additional example in the [Notes and Examples](#).



6. You can also look at the Flash resource [Midpoint of two points](#).



7. **Exercise 1B**
Attempt at least half the parts of question 1, and questions 2, 3, 5 and 7.



8. For extra practice try the interactive questions [The midpoint between two points](#).



9. Read section 1.3, which introduces the idea of the gradient of a line. There is a further example in the [Notes and Examples](#).



10. You can also look at the Flash resource [Gradient of a line](#).



11. **Exercise 1C**
Attempt questions 1, 2, 3, 5 and 7.

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12. For extra practice try the interactive questions [The gradient of a line](#) and [The gradient of a line between two points](#).



13. Read section 1.4 (pages 10 – 12). This looks at solving problems using the work covered so far, on distances, midpoints and gradients. Note the important advice to draw diagrams!



14. Exercise 1D

Attempt questions 1(a), 2, 3(c), 4(b), 5, 7, 9, 11 and 12.



15. Read sections 1.5, 1.6 and 1.7 (pages 13 – 17). This looks at the equation of a straight line. There are further examples in the [Notes and Examples](#).



16. For further examples look at the Flash resources [Equation of a line \$y = mx + c\$](#) , [Equation of a line \$ax + by + c = 0\$](#) , [Equation of a line \$y - y_1 = m\(x - x_1\)\$](#) , and [Parallel lines](#).



17. Exercise 1E

Attempt at least half the parts of questions 1, 2, 3 and 4, and questions 6 and 8.



18. For extra practice try the interactive questions [The equation of a line between two points](#).



19. Read section 1.8 (pages 17 – 18). This looks at finding the intersection point of two lines, using simultaneous equations, which you met at G.C.S.E. level. Remind yourself of the techniques of elimination and substitution. There are further examples in the [Notes and Examples](#).



20. Also look at the Flash resource [Intersection of two lines](#).



21. Exercise 1E

Attempt at least half the parts of question 11.



22. Read section 1.9 (pages 20 – 22). This looks at the relationship between the gradients of perpendicular lines. There is a further example in the [Notes and Examples](#).



23. You can also look at the Flash resource [Perpendicular lines](#).



24. Exercise 1F

Attempt question 1, at least half the parts of question 2, and questions 3 and 5.



25. For extra practice try the interactive questions, [The gradient of a perpendicular](#).