Blurt it

Step 1

Name _____ **Date** _____

1. Cover your notes and put your phone face down.
2. Set a timer for 5 minutes.
3. Write down everything you remember about graphs and simultaneous equations: methods, key words, examples, and mistakes to avoid. Diagrams count too.

Stuck? Start with one of these: gradient · y-intercept · simultaneous equations

When the timer ends, turn over and check what you remembered.

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Check it, fix it, space it

Steps 2, 3 and 4

Check it

Tick each idea you wrote down, even in your own words.

- [ ] Coordinates are (x, y): go across first, then up or down, in all four quadrants
- [ ] Complete a table of values, plot the points, then draw the graph
- [ ] In y = mx + c, m is the gradient and c is the y-intercept
- [ ] Write the equation of a line from its gradient and y-intercept
- [ ] Parallel lines have the same gradient: use this to find a parallel line through a point
- [ ] Draw a quadratic graph from a table of values as a smooth curve
- [ ] A quadratic's roots are where it crosses the x-axis; read the turning point from the graph
- [ ] Find a quadratic's roots by factorising; its y-intercept is its constant term
- [ ] Know the shapes of linear, quadratic, cubic and reciprocal graphs
- [ ] Graphs: the solution of simultaneous equations is the point where the lines cross
- [ ] The solution is a pair of values, x and y, that make both equations true
- [ ] Solve simultaneous equations by elimination or substitution
- [ ] Watch the signs when you add or subtract equations, especially negative ones
- [ ] Real-life graphs: check the scale on each axis before reading off a value

Higher only

- [ ] Recognise and sketch exponential graphs, $y = k^x$, and tell them apart from the others
- [ ] Perpendicular gradient: the negative reciprocal of the original gradient
- [ ] Solve a linear and a quadratic simultaneously, by algebra or where the graphs meet
- [ ] A tangent touches a curve at one point and matches its gradient there
- [ ] Estimate a curve's gradient by drawing a tangent, and explain it as a rate of change
- [ ] Find a quadratic's turning point by completing the square

Key words to use: coordinate · gradient · y-intercept · linear · quadratic · cubic · reciprocal · exponential · simultaneous equations · elimination · substitution · point of intersection · root

I remembered _____ out of 14. **Higher only: _____ out of 6.**

Fix it

Pick 3 ideas you missed. Look them up, then write each one correctly.

1	2	3

Space it

Blurt again on a fresh sheet. Gaps help you remember for longer.

Tomorrow	In 3 days	In a week
Date _____	Date _____	Date _____
Score _____ / 14	Score _____ / 14	Score _____ / 14
Higher only _____ / 6	Higher only _____ / 6	Higher only _____ / 6

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