**2A/B Solving Quadratic Equations**

1. Solve the Equation
2. Solve 4x2 – 3x – 2 = 0 by using the Quadratic formula.

**2C/D Completing the Square**

1. Complete the square for the following expressions
2. Solve the following equations. You can use completing the square, but I prefer to stick to the Quadratic formula – give both a go and see if you have a preference (and get the same answer)
3. (complete the square only – what do you find?)

**2E Part 1 Quadratics as a Function**

1. The function f and g are given by and , .
2. Find the values of and
3. Find the value of for which
4. The function f is defined as .
5. Write in the form
6. Hence, or otherwise, find the roots of , leaving all your answers in surd form
7. Write down the minimum value of and state the value of for which it occurs

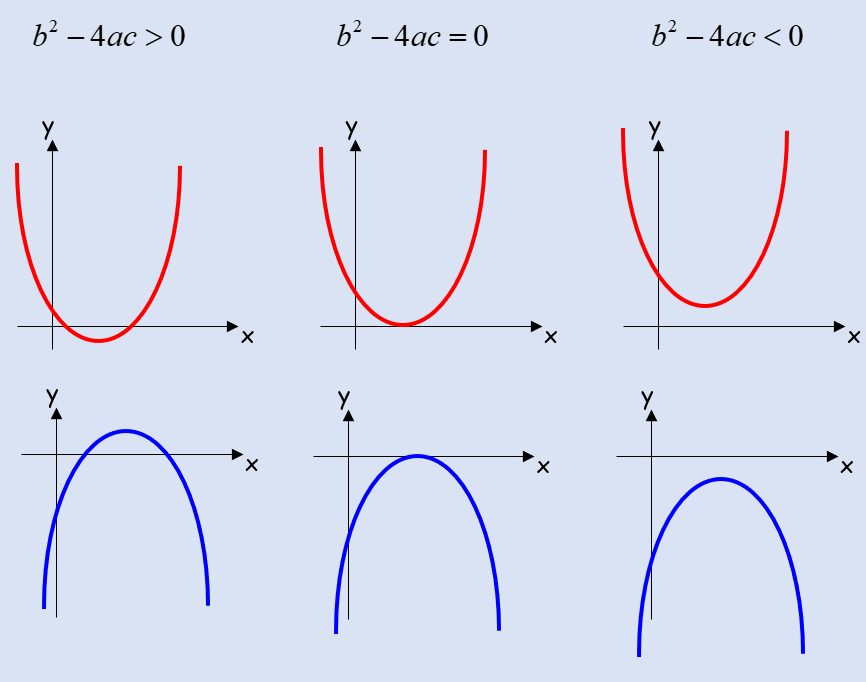
**2E Part 2 Hidden Quadratics**

1. Find the roots of the function

**2F Sketching Quadratics**

1. Sketch the graph of the function , and find the coordinates of its turning point.
2. Sketch the graph of the function , and find the coordinates of its turning point.

**2G The Discriminant**



1. Find the values of k for which;

x2 + kx + 9 = 0

has equal roots.

1. Find the values of k for which;

x2 + 4x + k = 0

has two distinct real solutions.

**2H Modelling with Quadratics**

1. A spear is thrown over level ground from the top of a tower. The height, , in metres, of the spear above the ground after seconds is modelled by the function:
2. Interpret the meaning of the constant 12.25 in the question
3. After how many seconds does the spear hit the ground?
4. Write in the form , where , and are constants to be found.
5. Using your answer to part c), or otherwise, find out the maximum height of the spear, and when it reaches this height