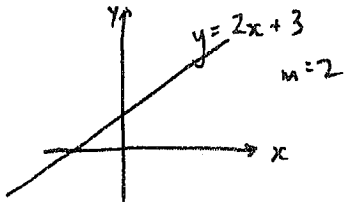
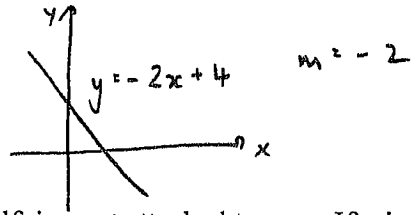
TYPES OF GRAPHS
Revision for Q2 on the exam

Straight lines

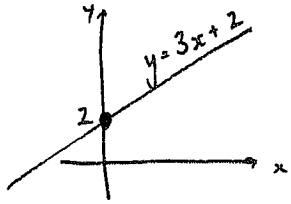
Always put the line into the form $y = mx + c$ (Sometimes there won't be a y, so you'll just have x = a number. See below for this type.)

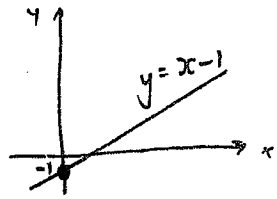
$y = mx + c$ if m is positive, the line is rising. If m is negative, the line is falling

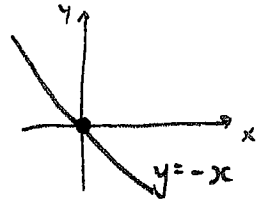




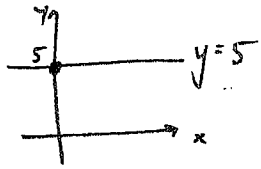
c is the y-intercept. c is the number by itself, i.e. not attached to an x. If c is positive, the graph cuts the y-axis *above* the x-axis. If c is negative, the graph cuts the y-axis *below* the x-axis. If there is no c, i.e. c = 0, the graph goes through the origin (0,0).

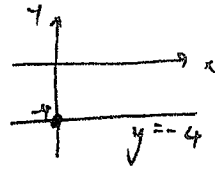




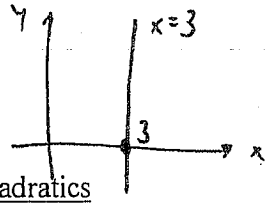


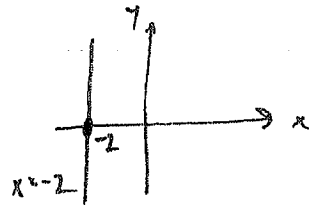
$y = c$ where c is *any number*. Horizontal line as m = 0. eg. y = 2, y = -4





$x = k$ where k is *any number*. Vertical line as there is no gradient. eg. x = 5, x = -8





Quadratics

$y = ax^2 + bx + c$ If there is an x^2 then the graph is either ∪ or ∩

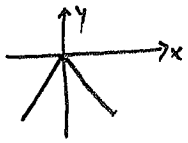
If a is positive, then the graph looks like ∪ happy happy !

If a is negative, then the graph looks like ∩

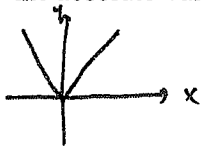
c is the same as in $y = mx + c$, i.e. the y-intercept

Other lines

Absolute values - if there is a negative sign *outside* the absolute value, then every answer is negative, so the graph looks like



If there is no sign *outside* the absolute value, then every answer is positive, so the graph looks like



ae^x – rising to the right if a is > 1, falling to the right if a < 1