

Name Key

### Do Now

#### Part III

Answer all 3 questions in this part. Each correct answer will receive 3 credits. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. For all questions in this part, a correct numerical answer with no work shown will receive only 1 credit. All answers should be written in pen, except for graphs and drawings, which should be done in pencil. [9]

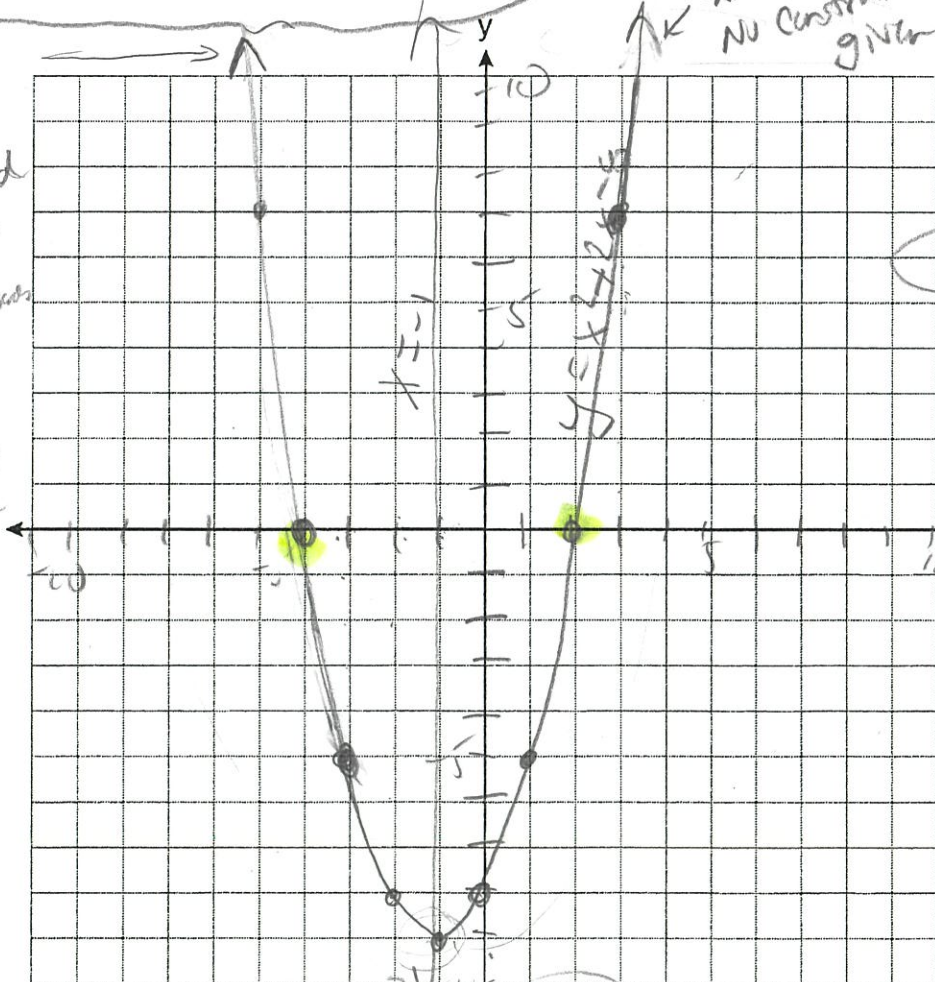
parabola

34 On the set of axes below, graph the equation  $y = x^2 + 2x - 8$ .

Using the graph, determine and state the roots of the equation  $x^2 + 2x - 8 = 0$ .

go up to as close to 10 x -10 as possible for key-values

Be careful when you extend your lines so that it goes towards the next point that is not graphed



| X  | Y  |
|----|----|
| -5 | 7  |
| -4 | 0  |
| -3 | -5 |
| -2 | -8 |
| -1 | -9 |
| 0  | -8 |
| 1  | -5 |
| 2  | 0  |
| 3  | 7  |

T.P / vertex

Roots:  
 $x = -4$   
 $x = 2$

Domain: All real or  $\mathbb{R}$  or  $(-\infty, \infty)$

Range:  $y \geq -9$  or  $[-9, \infty)$

axis of symmetry  
Turning point or vertex (minimum)