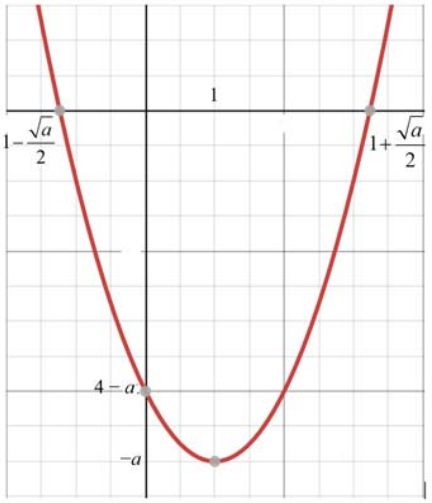
| | | | | | |
|---|---|---|---|---|---|
| **20** | | graph drawn in shape of a quadratic with a minimum in any quadrant | | 4 | M1 for a quadratic with a minimum |
| | | $x = 1$ , $y = 4\ (1 - 1)^2 - a$ | | | M1 for finding the turning point (may be seen marked on the graph as $(1, -a)$) |
| | | $x = 1 \pm \sqrt{\frac{a}{4}}$ oe **or** $y = 4 - a$ | | | M1 for finding one of the intercepts (or award for any one correct coordinate shown on graph)<br>$(0, 4 - a)$ or $(1 + \frac{\sqrt{a}}{2}, 0)$ or $(1 - \frac{\sqrt{a}}{2}, 0)$<br>Note: The 0's can be ignored (as shown in the diagram) |
| | |  | Correct graph | | A1 for a fully correct graph<br>• quadratic shape with minimum in the fourth quadrant and marked as $(1, -a)$ oe<br>• $x$-axis intercepts marked as $(1 + \frac{\sqrt{a}}{2}, 0)$ oe on the positive $x$-axis **and** $(1 - \frac{\sqrt{a}}{2}, 0)$ oe on the negative $x$-axis<br>• $y$-axis intercept marked as $(0, 4 - a)$ oe<br>Note: The 0's can be ignored (as shown in the diagram) |
| | | | | | |
| | | | | | **Total 4 marks** |