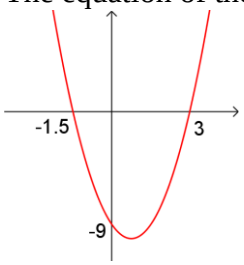
Section 1: Quadratic graphs and equations

Section test

1. Factorise the expression $4y^2+5y-6$.

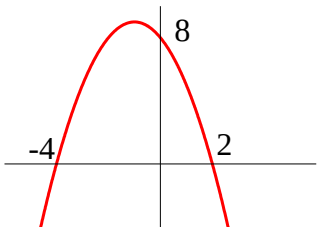
2. The equation of the graph below is given by



(a) $y=2x^2+3x-9$ (b) $y=2x^2-3x-9$

(c) $y=x^2-1.5x-4.5$ (d) $y=x^2+1.5x-4.5$

3. The equation of the graph below is given by



(a) $y=x^2-2x-8$ (b) $y=-x^2-2x+8$

(c) $y=-x^2+2x-8$ (d) $y=x^2+2x-8$

4. The quadratic expression x^2-2x-3 can be written in the form $(x+a)^2+b$.
Find the values of *a* and *b*.

5. The quadratic expression $3+x-x^2$ can be written in the form $b-(x+a)^2$.
Find the values of *a* and *b*.

6. The quadratic expression $2x^2+6x+1$ can be written in the form $a(x+b)^2+c$. Find the values of *a*, *b* and *c*.

7. Find the equation of a quadratic graph with minimum point (1, -4).

8. Find the equation of a quadratic graph with maximum point (-2, 5).

9. Find the coordinates of the vertex of the graph of $y=x^2-2x-1$. State whether the vertex is a maximum or a minimum point.

10. Find the coordinates of the vertex of the graph of $y=-x^2+5x+2$. State whether the vertex is a maximum or a minimum point.