

Practice Test
Parabolas

Factor completely.

1. $16a^2 - 25b^2$

2. $x^2 - x - 6$

3. $8x^2 - 18$

4. $x^3 + 5x^2 - 9x - 45$

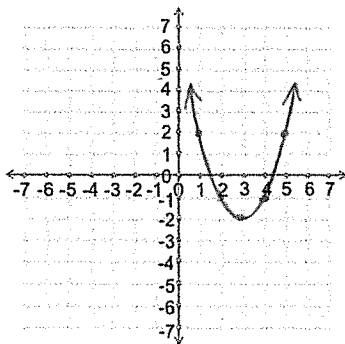
Solve with the quadratic formula.

5. $x^2 - 2x - 3 = 0$

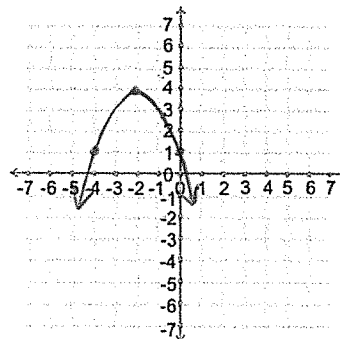
6. $1 - 5x = 2 + 2x^2$

Give the equation in vertex form for each parabola.

7.



8.



9. Find the vertex and roots of the parabola given by $f(x) = 2(x - 3)^2 - 8$.

Put each equation in vertex form.

10. $f(x) = x^2 - 6x + 7$

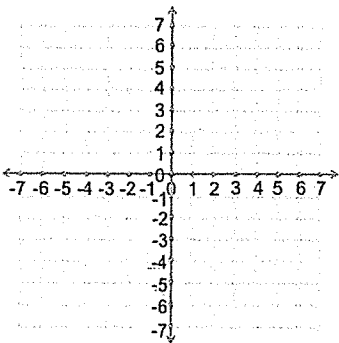
11. $f(x) = x^2 + 5x + 1$

12. $f(x) = 2x^2 - 4x - 3$

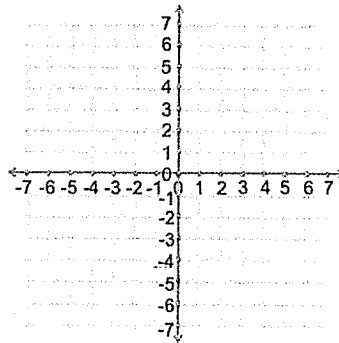
13. $f(x) = -x^2 + 3x - 1$

Graph each parabola.

14. $f(x) = (x - 2)^2 + 3$



15. $f(x) = -2(x + 1)^2$



16. Give the equation for a parabola that has exactly one x -intercept.

Extra Credit. Give the equation of the parabola that passes through the points $(2,0)$, $(-1,0)$, and $(1,3)$.