Ready, Set, Go!

Ready

Topic: Factoring polynomials

Factor each of the polynomials completely.

1. $x^2 + x - 12$
2. $x^2 - 2x - 8$
3. $x^2 + 5x - 14$
4. $x^2 - x + 6$
5. $x^2 + 6x + 9$
6. $x^2 - 7x + 10$
7. $2x^2 - 9x - 5$
8. $3x^2 - 3x - 18$
9. $2x^2 + 8x - 42$

10. How is the factored form of a quadratic helpful when graphing the parabola?

Set

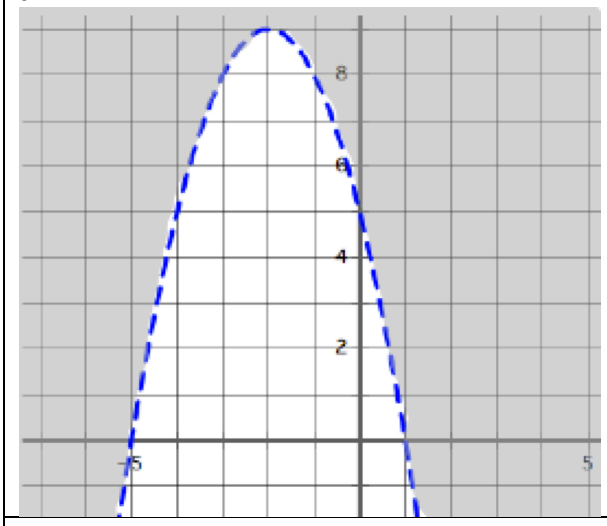
Topic: Solving quadratic inequalities

Solve each of the quadratic inequalities.

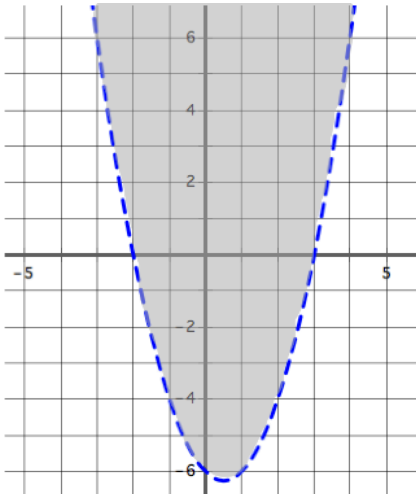
11. $x^2 + x - 12 > 0$
12. $x^2 - 2x - 8 \leq 0$
13. $x^2 + 5x - 14 \geq 0$
14. $2x^2 - 9x - 5 \geq 0$
15. $3x^2 - 3x - 18 < 0$
16. $x^2 + 4x - 21 < 0$
17. $x^2 - 4x \leq 0$
18. $x^2 \leq 25$
19. $x^2 - 4x \leq 5$

Match each graph with its inequality.

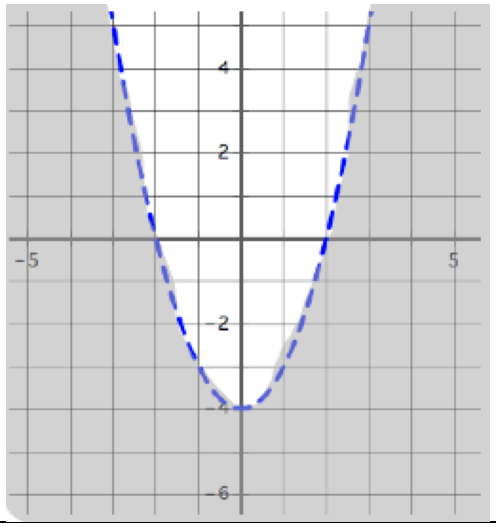
a.



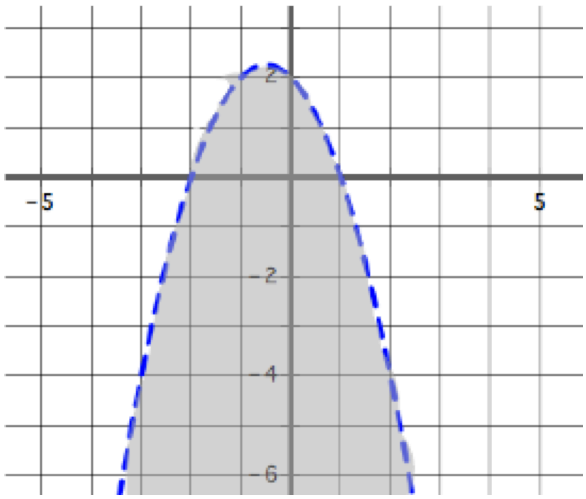
b.



c.



d.



20. $y > x^2 - x - 6$

21. $y < x^2 - 4$

22. $y < (x + 2)(1 - x)$

23. $y > 5 - 4x - x^2$

Go

Topic: Vertex form of quadratic equations

Write each quadratic function below in vertex form.

24. $f(x) = x^2 + 6x + 5$

25. $f(x) = (x + 3)(x - 5)$

26. $f(x) = (x - 2)(x + 6)$

27. $f(x) = x^2 - 12x + 20$

28. $f(x) = 2x^2 + 16x + 8$

29. $f(x) = x^2 - 2x - 8$