Lesson 15: Using the Quadratic Formula

Classwork

Opening Exercises

Solve the following:

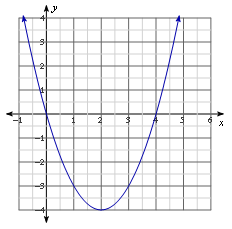
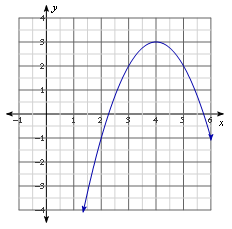
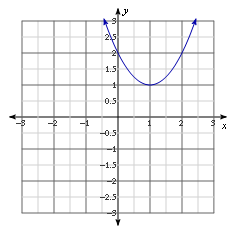
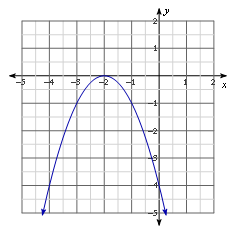
**Exercises**

Solve Exercises 1–5 using the quadratic formula.



For Exercises 6–9, determine the number of real solutions for each quadratic equation without solving.

4. On the line below each graph, state whether the discriminant of each quadratic equation is positive, negative, or equal to zero. Then, identify which graph matches the discriminants below.



Graph 1 Graph 2 Graph 3 Graph 4

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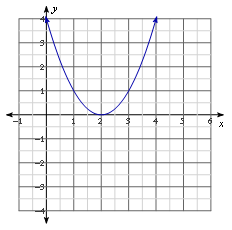
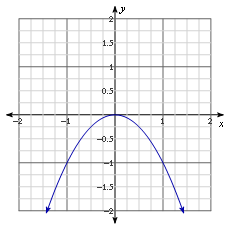
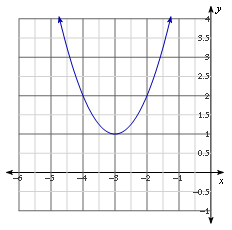
|  |  |  |  |
| --- | --- | --- | --- |
| Discriminant A:  Graph: \_\_\_\_\_\_ | Discriminant B:  Graph: \_\_\_\_\_\_ | Discriminant C:  Graph: \_\_\_\_\_\_ | Discriminant D:  Graph: \_\_\_\_\_\_ |

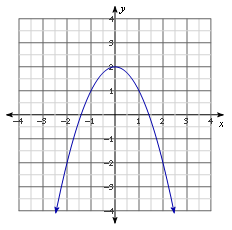
Problem Set

Lesson Summary

You can use the sign of the discriminant, , to determine the number of real solutions to a quadratic equation in the form , where . If the equation has a positive discriminant, there are two real solutions. A negative discriminant yields no real solutions, and a discriminant equal to zero yields only one real solution.

Without solving, determine the number of real solutions for each quadratic equation.

****Based on the graph of each quadratic function,, determine the number of real solutions for each corresponding quadratic equation, .

1. 6.
2. ** 8.