

Today's Plan:

Learning Target (standard): I will graph quadratic equations using the 6-step process.

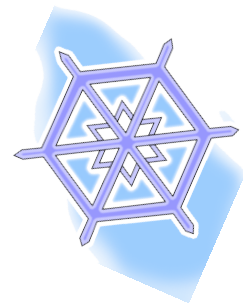
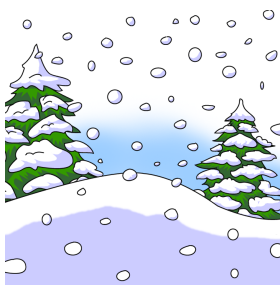
Students will: Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, take notes over new material and complete practice problems over new concepts.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide examples of new concepts and assign students assessment problems over new concepts.

Assessment: Board work, homework check and homework assignment

Differentiation: Students will work at the board, go over and correct homework at their seats, actively engage in lecture over new concepts, practice new concepts with the aid of other students and the teacher and complete homework assignment.

We are going to put our 6-step process & the resulting quadratic graphs on the board. You will then have the opportunity to check your work and ask questions.



Graph.

$y = 2x^2 - x - 5$

1) opens up \rightarrow minimum

2) vertex: $(\frac{1}{4}, -\frac{41}{8})$

$x = -\frac{b}{2a} = \frac{1}{2(2)} = \frac{1}{4}$

$y = 2(\frac{1}{4})^2 - \frac{1}{4} - 5$
 $= \frac{1}{8} - \frac{2}{8} - \frac{40}{8}$
 $y = -\frac{41}{8}$

3) AOS: $x = \frac{1}{4}$

4) I_x : $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$b^2 - 4ac$
 $1 - 4(2)(-5) = \frac{1 \pm \sqrt{41}}{2(2)}$
 $1 + 40 = \frac{1 + \sqrt{41}}{4}, \frac{1 - \sqrt{41}}{4}$
 $41 > 0$
 $2 I_x$
 $I_x: (\frac{-1 + \sqrt{41}}{4}, 0), (\frac{-1 - \sqrt{41}}{4}, 0)$

5) $x | y$

-2	1
-1	-4
0	-5
1	-4
2	1

Graph.

$y = -2x^2 - 3x + 2$

1) opens down \rightarrow maximum

2) vertex: $(-\frac{3}{4}, \frac{25}{8})$

$x = -\frac{b}{2a} = \frac{3}{2(-2)} = -\frac{3}{4}$

$y = -2(-\frac{3}{4})^2 - 3(-\frac{3}{4}) + 2$
 $= -2(\frac{9}{16}) + \frac{9}{4} + 2$
 $= -\frac{9}{8} + \frac{18}{8} + \frac{16}{8}$
 $y = \frac{25}{8}$

3) AOS: $x = -\frac{3}{4}$

4) I_x : $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$b^2 - 4ac$
 $(-3)^2 - 4(-2)(2) = \frac{3 \pm \sqrt{25}}{2(-2)}$
 $9 + 16 = \frac{3 \pm 5}{-4}$
 $25 > 0$ $2 I_x$
 $x = \frac{1}{2}, -2$
 $I_x: (\frac{1}{2}, 0), (-2, 0)$

5) $x | y$

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Assignment:

Graphing Quadratic Equations

#2-12 even

Graph using the 6-step process