

Activity Worksheet

Activity Details – Activity 2 (Quadratic Equation)

LO to be covered: *Apply the quadratic formula to solve a real-world problem.*

Selected type of activity: *Variation on Think-Pair-Share*

Why is this activity well suited to the concept/topic? *Makes students first think on their own, then confirm their answer*

How will you know that students have mastered the LO(s) as a result of this activity?

They get the correct answer and can explain it. Especially when done with clickers, I will have feedback from all students. Will also have selected student pairs come to the board and explain their work.

Prep Work

What needs to happen outside of class before the active learning session starts?

Instructor Prep Work (e.g. prepare materials/slides)	Student Prep Work (e.g. read, watch video)
<ul style="list-style-type: none">• Prepare a handout with three to five different application problems. Also put those problems on slides that can be projected when students write their answers on the board. Each group/pair is assigned a “starting problem” and there should be at least two groups/pairs starting on the same problem. Pick a number of problems that can accommodate that. For very large classes, have 3 or 4 groups work on the same problem, otherwise the share portion becomes too long	<ul style="list-style-type: none">• Students have worked through pre-class exercises and are comfortable using quadratic formula.

Steps

List the steps needed to conduct the active learning session in class. What will students do within their groups? How will groups interact? How will you as the instructor interact with students and conduct the debrief?

- ① Description & Time Required: Think individually (10 mins)

Instructions to Students	Materials Required
Please form pairs/groups. I will assign each pair/group a number, and you will completely solve the problem that on the handout that has your group’s number. Once you have finished your problem, work on any/all of the other problems, but only derive the quadratic equation that needs to be solved.	Handout with numbered problems

- ② Description & Time Required: Pair (and prep to share) (10 mins)

Instructions to Students	Materials Required
For each problem, the pair/group that I pick will write their solution on the board. A second group who has worked on the same problem will check the solution and make adjustments if needed. If answers are different, the two groups need to decide on what the correct answer is, or bring their “dispute” to the class at large to resolve.	Enough board space to simultaneously write the different problems student pairs/groups have worked on the board. If students have iPads, they could write answer there and then send it to instructor to display from a computer. Students could also write their solution on a sheet of paper and then it could be projected

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- ③ Description & Time Required: Share (10 mins)

Instructions to Students	Materials Required
For each problem, the group who did not write the answer on the board will explain it to the class.	None

- ④ Description & Time Required:

Instructions to Students	Materials Required

Adapted from handout by Center for Effective Teaching and Learning (CETL, Cal State LA)