

Using Student Choice and Self-Assessment to Increase Success for All

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Critical Factors for Implementing a System Based on Choice:

1. Trust – the fundamental belief that students will do the right thing
2. High Expectations and a Growth Mindset
3. Reward for choosing challenging problems
4. Patience – We must teach the words and the habits we want to see grow.

Summary of the system:

1. Assignments are connected to learning targets for the unit.
2. A total point value is required.
3. Basic problems are weighted lower while challenging problems are worth more points.
4. Students score and correct their work daily.
5. They reflect on their own learning habits, common mistakes, and strengths and write that down.

Suggestions for implementing a system of differentiated assignments:

- Choose a consistent total point value for assignments.
- Weight the problems such that the **student must try one standard problem** to build enough points.
- Give challenging problems higher points to encourage and reward students who do them.
- Separate required problems into their own section (such as a review problems).
- Label the points clearly and include the total possible points on the front.
- Stick to your guns about **self-grading in a DIFFERENT COLOR** and monitor this.
- Encourage honesty by explaining your goal – We are **LEARNERS** not **LIARS**.
- Police point totals like crazy in the beginning. Speak privately with anyone misusing the system.
- **Share thoughts, strengths and struggles for each assignment as a class.**
- Show the class what you expect for thoroughness.
- Give an occasional surprise bonus point (or sticker) for students with complete record sheets.
- Speak privately with students who should be trying the challenge problems and aren't.
- Accept that **it will take time** to train students to be introspective and articulate about their own learning.
- Don't be afraid to change what isn't working.

Example of feedback that was used during the year:

Algebra2 – Thoughts and New Policies on Homework Packets

1. I am impressed by how many of you are **ORGANIZED** and **keeping your work together!**

2. Many of you are making **CORRECTIONS** in a **DIFFERENT COLOR**. Good! That is how you **LEARN!**

3. Reminders:

- **You are responsible for HW EVEN IF YOU ARE ABSENT!** You may download all materials from my website at the HOMEWORK section and clicking the day you were absent.
- If you are NOT making **corrections**, DO SO in a different color.
- **Review questions are not optional.**
- **Show your work.** We know what is going on when we see one line of unrelated work, the answer and a 25/25. Do not try to fool old foolers!
- Be sure to put your SCORE on top in the box.
- **A score below 18 is a RED FLAG!** Come in and see us. We want you to succeed!
- Be as **specific** as you can in your reflections. Here are some examples:

INSTEAD OF THIS	TRY THIS.....
Silly arithmetic errors	$7*8=56$!!!
Silly arithmetic errors	- * - = + !!!!
Made sign mistakes	Switch inequality when \div by negative!
Domain is confusing	Don't know when and why to use $-\infty$
Domain is confusing	Don't know when to use the \neq and when to use ≥ 0
Domain is confusing	When do I use [and when do I use (?
Work on radicals	Find ALL perfect squares under radical
Work on radicals	$\sqrt{-1} = i$
Work on radicals	Forgot how to simplify variable under the radical sign
Forgot absolute value	Forgot to include negative case
Forgot absolute value	Forgot to flip inequality on negative case

Sample Assignment

Name _____

Date _____

Algebra 2 HW: Completing the Square

Complete the 5 review questions and then choose **20 POINTS worth** of new material. Mix and match as YOU NEED to feel confident with this material.

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I. REVIEW (NOT OPTIONAL) – complete all of these (1 pt each)

1. Find the domain of the $\frac{5x-2}{x+5}$

2. Factor $121x^2 - 64y^2$

3. Factor $x^2 + x - 56$

4. Factor $6x^2 + 7x - 3$

5. Simplify $\sqrt{1800x^2y^3}$

II. PRACTICE – Fill in the blank to make the quadratic a perfect square trinomial. Then, factor it. (2 pt each)

6. $x^2 + 6x + \underline{\hspace{2cm}}$ factored: $\underline{\hspace{2cm}}$

7. $x^2 + 12x + \underline{\hspace{2cm}}$ factored: $\underline{\hspace{2cm}}$

8. $x^2 - 24x + \underline{\hspace{2cm}}$ factored: $\underline{\hspace{2cm}}$

9. $x^2 - 30x + \underline{\hspace{2cm}}$ factored: $\underline{\hspace{2cm}}$

10. $x^2 - 2x + \underline{\hspace{2cm}}$ factored: $\underline{\hspace{2cm}}$

11. $x^2 + 7x + \underline{\hspace{2cm}}$ factored: $\underline{\hspace{2cm}}$ ** This may have a fraction in it!

III. MORE PRACTICE – Solve the following by completing the square. 3 pts each
REMEMBER: You are finding **WHERE THE QUADRATIC CROSSES THE X-AXIS.**

12. $x^2 + 4x = 10$

13. $x^2 + 8x = -1$

14. $x^2 + 6x - 3 = 0$

15. $x^2 + 12x + 18 = 0$

16. $2x^2 + 16x + 12 = 0$

17. $4x^2 - 40x - 12 = 0$

IV. REACH FOR THE STARS! – Solve by completing the square. 4 pts each

18. a. $x^2 - 18x + 86 = 0$

19. a. $x^2 - 2x + 25 = 0$

b. Where does the quadratic cross the x-axis?

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