

Exam 2 Grading Comments

Part I Multiple Choice

For each item the instructions said to circle ALL correct statements, and more than one correct statement appears for several of the items. Accordingly, each statement of each item was scored as if it were a T/F question. I assigned one “x” for each true statement that was I circled, and for each false statement that *was* circled. Your total for part I is 25 minus the number of x’s. However, in grading problem 5 I decided that statement *b* was a little ambiguous, and might justifiably be marked either T or F, and so assigned no x for that statement regardless of whether or not it was circled.

Your paper indicates the number of x’s for each numbered problem, but does not tell you which statements were correct or incorrect. This is intentional: Your Exam Solutions groups will need to discuss the multiple choice items and come to some consensus about which statements are true, and why.

Part II Free Response

One or more of the comments below may be identified on your exam paper with a code. For example, if you see on your exam paper “SC 4b.1” that means “See Comment 4b.1” on the list below.

Problem 4

- 4a.1 Your table for a_n does not show constant second differences. That invalidates your use of the quadratic growth difference equation and functional equation.
- 4a.2 You have not given a properly formulated difference or functional equation. The equation should have a variable for the position number (n) but numbers in place of all the parameters.
- 4b.1 Your functional equation is incorrectly stated or is inconsistent with your answer to part (a).
- 4c.1 Your answer is incorrect in the problem context because it is based on incorrect answers to prior parts of the problem. Your method is correct and (except where otherwise indicated) received full credit. But in exam solutions this problem should have both a correct method and a correct answer.

Problem 5

- 5a.1 Your table for c_n is not consistent with the definition given in the problem.
- 5a.2 Your description here does not match what your table shows

- 5b.1 Your answer is correct, but a better answer is possible. Your answer is only valid if the pattern you see in your table continues indefinitely. It is only supported by a small sample of data points. A better answer is available that uses a structural justification valid for all n .
- 5b.2 Your answer is incorrect in the problem context because it is based on incorrect answers to prior parts of the problem. Your method is correct and (except where otherwise indicated)

received full credit. But in exam solutions this problem should have both a correct method and a correct answer.

- 5b.3 Your answer is not consistent with what is shown in your table in part (a).
- 5c.1 Your equation here is not consistent with your table in (a) and/or your explanation in (b).
- 5c.2 Your answer is incorrect in the problem context because it is based on incorrect answers to prior parts of the problem. Your method is correct and (except where otherwise indicated) received full credit. But in exam solutions this problem should have both a correct method and a correct answer.
- 5c.3 You have not given a properly formulated functional equation. A functional equation should have a variable for the position number (n) but numbers in place of the parameters.
- 5d.1 Your answer is incorrect in the problem context because it is based on incorrect answers to prior parts of the problem. Your method is correct and (except where otherwise indicated) received full credit. But in exam solutions this problem should have both a correct method and a correct answer.
- 5d.2 You have not found an answer to the question of how long the mine can operate. The answer should be a specific number.
- 5d.3 Using a calculator table is a valid method, but you have to enter the equations and the values correctly. Your answer is not correct and/or not consistent with your work in prior parts, and I cannot tell from what is written exactly what you intended to enter into the calculator. In particular, I don't know if you used a correct equation (entered incorrectly), or an incorrect equation.
- 5d.4 To verify that your answer is correct, you need to show the specific year when the copper will run out. That means showing the last year with a total less than 2000, and that the following year the total is more than 2000.