

Student Guide for POW 15: A Logical Collection

1. PART 1: The Missing Mascot (10 pts)

a. Restate the story in your own words

- 0 – No story stated
- 1 – Story is copied from text
- 2 – Story is partially restated and partially copied
- 3 – Story is restated but lacks some necessary information
- 4 – Story was written in students own words and includes all necessary information

b. Describe how you solved the problem

- 0 – No description stated
- 1 – Description is poor/limited/vague/incomplete
- 2 – Description is complete and thorough and clearly solves the problem

c. Describe how you can prove your answer is correct

- 0 – No description of a proof given
- 1 – A poor or incomplete proof that does not clearly prove the answer is correct
- 2 – A detailed proof that clearly proves the answer must be correct

d. Provide all diagrams and sketches

- 0 – No diagrams provided
- 1 – Poor diagrams with little if any labels/explanations/comments
- 2 – Complete diagrams with clear and concise labels/explanations/comments

2. PART 2: What Did He Say? (10 pts)

a. Restate the story in your own words

- 0 – No story stated
- 1 – Story is copied from text
- 2 – Story is partially restated and partially copied
- 3 – Story is restated but lacks some necessary information
- 4 – Story was written in students own words and includes all necessary information

b. Describe how you solved the problem

- 0 – No description stated
- 1 – Description is poor/limited/vague/incomplete
- 2 – Description is complete and thorough and clearly solves the problem

c. Describe how you can prove your answer is correct

- 0 – No description of a proof given
- 1 – A poor or incomplete proof that does not clearly prove the answer is correct
- 2 – A detailed proof that clearly proves the answer must be correct

d. Provide all diagrams and sketches

- 0 – No diagrams provided
- 1 – Poor diagrams with little if any labels/explanations/comments

2 - Complete diagrams with clear and concise labels/explanations/comments

3. PART 3: The Turner Triplets (10 pts)

a. Restate the story in your own words

- 0 – No story stated
- 1 – Story is copied from text
- 2 – Story is partially restated and partially copied
- 3 – Story is restated but lacks some necessary information
- 4 – Story was written in students own words and includes all necessary information

b. Describe how you solved the problem

- 0 – No description stated
- 1 – Description is poor/limited/vague/incomplete
- 2 – Description is complete and thorough and clearly solves the problem

c. Describe how you can prove your answer is correct

- 0 – No description of a proof given
- 1 – A poor or incomplete proof that does not clearly prove the answer is correct
- 2 – A detailed proof that clearly proves the answer must be correct

d. Provide all diagrams and sketches

- 0 – No diagrams provided
- 1 - Poor diagrams with little if any labels/explanations/comments
- 2 - Complete diagrams with clear and concise labels/explanations/comments

4. EVALUATION (12 pts)

a. State the difficulty level of each problem (scale of 1-10), explain

- 0 - no explanation of level
- 1- minimal explanation of level
- 2 - Complete and thorough explanation of level selected

b. Describe your personal reaction/opinion to the problems

- 0 - no opinion or reaction stated
- 1 - a minimal statement with little support
- 2 - a well discussed statement of opinion/reaction

c. Identify the best/worst parts of the problems

- 0 - no identification of best/worst parts of exp
- 1 - minimal listing of best/worst parts of exp
- 2 - Complete and thorough listing of best/worst parts of exp

d. Describe how the problems could have been made better for you

- 0 – No description on the problem could have been improved
- 1 – A vague and limited statement how the problem could have been improved
- 2 - Several, well-support comments and suggestions regarding improvement

e. Write a one paragraph summary of “what you learned from this POW”

- 0 - No summary paragraph
- 1. A brief, poorly written summary that demonstrates little understanding of the problem, its solution and the mathematical ideas and concepts
- 2. A fair summary that includes some support, but lacks one or two key points that would have demonstrated understanding of the problem, its solution, and the mathematical ideas and concepts
- 3. A good summary that demonstrates an acceptable understanding of the problem,

- its solution and the mathematical ideas and concepts, however could be described in greater detail
4. A well written summary written that demonstrates a thorough understanding of the problem, its solution and the mathematical ideas and concepts

5. SELF-ASSESSMENT (8 pts)

a. Grade and Justify your work using a self-assessment scoring rubric

- 0 – Work not graded with rubric
- 1 – Score values provide with no justification
- 2 - Score values provide with minimal rational and many/most values not acceptable based on scoring guide criteria
- 3 - Scores values provided with fair/good rationales, but some values not acceptable based on scoring guide criteria
- 4 - Score values provided with strong rationales, all values acceptable based on scoring guide criteria

b. Write a one paragraph summary that identifies your weakest areas in this POW and describe the problems you had or the reasons you become “stuck” in these areas

- 0 – No paragraph written
- 1- A brief, poorly written summary that does not allow the reader the ability to understand why you had problems in specific areas of the POW and could not finish a problem, come to a solution, or make a generalization
- 2. A fair summary that is quite limited, and does not go into detail on problem areas and their specific reasons
- 4. A well written summary written that clearly identifies the weakest areas of the POW and describe the specific reasons that you had problems and how you will try to resolve these problems