

## **Magic Squares Student Exemplars**

### **Level 1**

The student demonstrates an initial start to the problem. The student completes #1 and includes mathematical justification.

### **Level 2**

The student applies some relevant mathematical processes and determines partial solutions to the problem. The student correctly completes #1 and #2 but provides no justification.

### **Level 3**

The student applies some relevant strategies that demonstrate a basic understanding of the problem. The student correctly completes #1, #2, and #3a), including justification, but does not apply the value of  $-3$  correctly in #3b).

### **Level 4**

The student applies thorough and relevant strategies that demonstrate a clear understanding of the problem. The student has a complete solution to all questions except for the second part of #4. The student demonstrates an understanding of magic squares and can provide justification. The student uses the sum of #3a) as the value of  $x$  in #3b).

### **Level 5**

The student applies thorough strategies and mathematical processes that demonstrate a comprehensive understanding of the problem. Procedures are efficient and effective. The student addresses all aspects of the problem and has a complete and correct solution.