

Name _____

2-3B Lesson Master**Questions on SPUR Objectives**

See pages 125–127 for objectives.

USES Objective G

In 1–3, let n be the number used to solve the given puzzle. Use algebra to show how the puzzles work.

- | | | | |
|--------------------------------------------------|-------|------------------------------------------------------|-------|
| 1. (1) Pick a number. | _____ | 2. (1) Pick a number. | _____ |
| (2) Add 2. | _____ | (2) Multiply by 5. | _____ |
| (3) Multiply by 15. | _____ | (3) Subtract 10. | _____ |
| (4) Subtract 51. | _____ | (4) Add 5. | _____ |
| (5) Divide by 3. | _____ | (5) Divide by 5. | _____ |
| (6) Add 11. | _____ | (6) Add 1. | _____ |
| (7) Subtract five times
your original number. | _____ | You will always end up
with your original number. | |
- You will always end up with 4.

- | | |
|-------------------------------------------|-------|
| 3. (1) Pick a number. | _____ |
| (2) Subtract 12. | _____ |
| (3) Multiply by 4. | _____ |
| (4) Add 12. | _____ |
| (5) Divide by -2 . | _____ |
| (6) Add three times your original number. | _____ |

You will always end up with 18 more than your original number.

4. Create a number puzzle that ends with -4 times your original number.

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5. Refer to the “Seven is Heaven” puzzle and work the puzzle with a decimal number of your choosing.
- _____

In 6 and 7, use the “magic square” shown below. In a magic square, the sums of any row, column, or diagonal are equal. In this magic square, the sums all equal 34.

16	3	2	13
5	10	11	8
9	6	7	12
4	15	14	1

6. Add 10 to every number in the magic square.

a. Is the result still a magic square? _____

b. By how much did the sum of the rows, columns, and diagonals change? _____

c. Add k to each of the numbers in the magic square. Is the result still a magic square? Explain your answer using algebra.

7. Multiply every number in the magic square by 6.

a. Is the result still a magic square? _____

b. By how much did the sum of the rows, columns, and diagonals change? _____

c. Multiply each number in the magic square by k . Is the result still a magic square? Explain your answer using algebra.
