**Multiplication Integer Logic**

Students are given integers to fill in the outside top and left borders so the numbers add to give the number in the corresponding inner square. Each given number must be used once on the top and once again on the left border. Once border numbers are placed, students need to complete the other inner squares with the correct product.

It may be helpful to demonstrate the first one to students. However, it is important for students to hear the logical thinking that is being done to solve these puzzles. It may also help students to list the numbers twice (once for the top border and once for the left border) and cross off the numbers as they are used on each line.

These can be enlarged and laminated on cardstock so that students can use overhead markers to complete. Enlarged copies are included (after the answer key)for this purpose.

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Multiplication Integer Logic**

Use −3, −2, 2, 3, and 4 to fill Use −1, −2, −3, 4, and 5 to fill

in the borders. in the borders

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| X |  |  |  |  |  |
|  | −8 |  |  |  | −6 |
|  |  | −4 |  |  |  |
|  |  |  | −12 |  |  |
|  |  |  |  | 6 |  |
|  |  |  |  |  | −9 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| X |  |  |  |  |  |
|  | 20 | −8 |  |  |  |
|  |  | 2 | 3 |  |  |
|  |  |  | 6 |  |  |
|  |  |  |  | −5 |  |
|  |  |  |  |  | −12 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **X** |  |  |  |  |  |  |
|  |  |  | 24 | 36 |  |  |
|  |  | −10 |  |  | 5 |  |
|  | −12 |  |  |  |  | −20 |
|  | 9 |  |  |  |  | 15 |
|  |  | 4 |  |  | −2 |  |
|  |  |  | −4 | −6 |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **X** |  |  |  |  |  |  |
|  |  |  | −20 |  |  |  |
|  |  |  | 15 |  |  |  |
|  |  | −30 | 25 | −20 |  | 15 |
|  | 4 |  | −10 |  | −2 |  |
|  |  |  | −30 |  |  |  |
|  |  |  | 5 |  |  |  |

Use −5, −3, −1, 2, 4, and 6 to fill Use −1, 2, −3, 4, −5, and 6 to fill

in the borders. in the borders.

Developed by:

Cleo M. Meek

**Multiplication Integer Logic Answer Key**

Use −3, −2, 2, 3, and 4 to fill Use −1, −2, −3, 4, and 5 to fill

in the borders. in the borders

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| X | 4 | −2 | −3 | 2 | 3 |
| −2 | −8 | 4 | 6 | −4 | −6 |
| 2 | 8 | −4 | −6 | 4 | 6 |
| 4 | 16 | −8 | −12 | 8 | 12 |
| 3 | 12 | −6 | −9 | 6 | 9 |
| −3 | −12 | 6 | 9 | −6 | −9 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| X | 5 | −2 | −3 | −1 | 4 |
| 4 | 20 | −8 | −12 | −4 | 16 |
| −1 | −5 | 2 | 3 | 1 | −4 |
| −2 | −10 | 4 | 6 | 2 | −8 |
| 5 | 25 | −10 | −15 | −5 | 20 |
| −3 | −15 | 6 | 9 | 3 | −12 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **X** | −3 | 2 | 4 | 6 | −1 | −5 |
| 6 | −18 | 12 | 24 | 36 | −6 | −30 |
| −5 | 15 | −10 | −20 | −30 | 5 | 25 |
| 4 | −12 | 8 | 16 | 24 | −4 | −20 |
| −3 | 9 | −6 | −12 | −18 | 3 | 15 |
| 2 | −6 | 4 | 8 | 12 | −2 | −10 |
| −1 | 3 | −2 | −4 | −6 | 1 | 5 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **X** | 2 | 6 | −5 | 4 | −1 | −3 |
| 4 | 8 | 24 | −20 | 16 | −4 | −12 |
| −3 | −6 | −18 | 15 | −12 | 3 | 9 |
| −5 | −10 | −30 | 25 | −20 | 5 | 15 |
| 2 | 4 | 12 | −10 | 8 | −2 | −6 |
| 6 | 12 | 36 | −30 | 24 | −6 | −18 |
| −1 | −2 | −6 | 5 | −4 | 1 | 3 |

Use −5, −3, −1, 2, 4, and 6 to fill Use −1, 2, −3, 4, −5, and 6 to fill

in the borders. in the borders.

Developed by:

Cleo M. Meek

Use −3, −2, 2, 3, and 4 to fill in the borders.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| X |  |  |  |  |  |
|  | −8 |  |  |  | −6 |
|  |  | −4 |  |  |  |
|  |  |  | −12 |  |  |
|  |  |  |  | 6 |  |
|  |  |  |  |  | −9 |

Use −1, −2, −3, 4, and 5 to fill in the borders

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| X |  |  |  |  |  |
|  | 20 | −8 |  |  |  |
|  |  | 2 | 3 |  |  |
|  |  |  | 6 |  |  |
|  |  |  |  | −5 |  |
|  |  |  |  |  | −12 |

Use −5, −3, −1, 2, 4, and 6 to fill in the borders.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **X** |  |  |  |  |  |  |
|  |  |  | 24 | 36 |  |  |
|  |  | −10 |  |  | 5 |  |
|  | −12 |  |  |  |  | −20 |
|  | 9 |  |  |  |  | 15 |
|  |  | 4 |  |  | −2 |  |
|  |  |  | −4 | −6 |  |  |

Use −1, 2, −3, 4, −5, and 6 to fill in the borders.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **X** |  |  |  |  |  |  |
|  |  |  | −20 |  |  |  |
|  |  |  | 15 |  |  |  |
|  |  | −30 | 25 | −20 |  | 15 |
|  | 4 |  | −10 |  | −2 |  |
|  |  |  | −30 |  |  |  |
|  |  |  | 5 |  |  |  |