

Name: Class:



Input/output tables with addition, subtraction, multiplication, and division

Find the rule for and complete the following input/output tables

| Rule: <u>multiply by 7</u> | | |
|----------------------------|---------------|--------|
| Input | Show working | output |
| 7 | 7×7 | 49 |
| 8 | | 56 |
| | $63 \div 7$ | 63 |
| | 10×7 | 70 |
| 11 | 11×7 | |

Let's first of all use the complete rows to find the rule

Example:
 $7 \times 7 = 49$

a.

| Rule: <u>subtract 9</u> | | |
|-------------------------|--------------|--------|
| Input | Show working | output |
| | | 18 |
| 23 | | |
| 17 | | |
| | | 6 |
| | | 0 |

b.

| Rule: <u>Add 13</u> | | |
|---------------------|--------------|--------|
| Input | Show working | output |
| 4 | | |
| | | 68 |
| 66 | | |
| | | 92 |
| | | 95 |

c.

| Rule: <u>Divide by 3</u> | | |
|--------------------------|--------------|--------|
| Input | Show working | output |
| 54 | | |
| | | 15 |
| | | 12 |
| | | 10 |
| 27 | | |



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a.

| Rule: <u>multiply by 7</u> | | |
|----------------------------|---------------|--------|
| Input | Show working | output |
| 7 | 7×7 | 49 |
| 8 | 8×7 | 56 |
| 9 | $63 \div 7$ | 63 |
| 10 | 10×7 | 70 |
| 11 | 11×7 | 77 |

Let's first of all use the complete rows to find the rule

Let's ask ourselves this:

How do we get from 8 to 56?

How do we get from 10 to 70?

You see that, if we multiply 8 by 7 and 10 by 7, we'll get 56 and 70 respectively.

So, the rule is Multiply by 7

Now, Let's use the rule to complete the table

$7 \times 7 = 49$

$10 \times 7 = 70$

$8 \times 7 = 56$

$11 \times 7 = 77$

$? \times 7 = 63$

Therefore, the complete table is as shown above

$? = \frac{63}{7} = \frac{9 \times 7}{1 \times 7} = 9$

b.

| Rule: <u>subtract 9</u> | | |
|-------------------------|--------------|--------|
| Input | Show working | output |
| 27 | $27 - 9$ | 18 |
| 23 | $8 - 9$ | 14 |
| 17 | $63 - 9$ | 8 |
| 15 | $10 - 9$ | 6 |
| 9 | $11 - 9$ | 0 |

c.

| Rule: <u>Add 13</u> | | |
|---------------------|--------------|--------|
| Input | Show working | output |
| 4 | $4 + 13$ | 17 |
| 55 | $55 + 13$ | 68 |
| 66 | $66 + 13$ | 79 |
| 79 | $79 + 13$ | 92 |
| 82 | $82 + 13$ | 95 |

d.

| Rule: <u>Divide by 3</u> | | |
|--------------------------|--------------|--------|
| Input | Show working | output |
| 54 | $54 \div 3$ | 18 |
| 45 | $45 \div 3$ | 15 |
| 36 | $36 \div 3$ | 12 |
| 30 | $27 \div 3$ | 10 |
| 27 | $21 \div 3$ | 9 |

