Operations with Rational and Irrational Numbers

|  |  |  |
| --- | --- | --- |
| + | $$\frac{1}{2}$$ | $$\sqrt{2}$$ |
| **5** |  |  |
| **0** |  |  |
| $$π$$ |  |  |

|  |  |  |
| --- | --- | --- |
| • | $$\frac{1}{2}$$ | $$\sqrt{2}$$ |
| **5** |  |  |
| **0** |  |  |
| $π$ |  |  |

Based on the above information, conjecture which of the statements is ALWAYS true, which is SOMETIMES true, and which is NEVER true? Show two examples to justify your reasoning.

1. The sum of a rational number and a rational number is rational.
2. The sum of a rational number and an irrational number is irrational.
3. The sum of an irrational number and an irrational number is irrational.
4. The product of a rational number and a rational number is rational.
5. The product of a rational number and an irrational number is irrational.
6. The product of an irrational number and an irrational number is irrational.

### \\146.201.222.37\UserDocs\hdavis\Desktop\Illustrative Mathematics\N-RN.2.3 -ops rational irrational\commentary.JPG

### \\146.201.222.37\UserDocs\hdavis\Desktop\Illustrative Mathematics\N-RN.2.3 -ops rational irrational\solutions.JPG