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| **Prime Factorization and Powers** | | |
| Represents a number as a product of factors in different ways.  24  “I can think of 24 as 2 × 12, 4 × 6,  or as 2 × 2 × 6.” | Identifies prime and composite numbers.  “24 is a composite number because it has  more than 2 factors.  23 is a prime number because it has  only 2 factors, 1 and itself.” | Determines the prime factorization of a number.  A diagram of a triangle with numbers and a few black lines  Description automatically generated with medium confidence  “24 = 2 × 2 × 2 × 3” |
| **Observations/Documentation** | | |
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| **Prime Factorization and Powers (cont’d)** | | |
| Writes repeated multiplication of identical factors as a power and vice versa.  2 × 2 × 2 = 23  34 = 3 × 3 × 3 × 3  “In the power 23, 2 is the base  and 3 is the exponent.” | Rewrites prime factorization of a number using powers.    24 = 2 × 2 × 2 × 3  “I can rewrite the prime factorization  using powers: 24 = 23 × 3.” | Flexibly uses prime factorization to identify common factors and divisibility.  A diagram of a triangle with numbers and a few black lines  Description automatically generated with medium confidence  “24 is divisible by 2, 3, 4, 6, 2 × 2 × 2 or 8,  and 2 × 2 × 3 or 12.” |
| **Observations/Documentation** | | |
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