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| **Investigating Perfect Squares and Square Roots** |
| Uses exponential notation to show factors of a number25 = 5 × 5  = 52 | Identifies a perfect square and a non-perfect square 64 = 8 × 8 = 8264 is a perfect square because it can be written as the product of two equal integers factors63 = 3 × 3 × 7  = 32 × 763 is not a perfect square because it cannot be written as the product of two equal integer factors. There is a single prime factor of 7 leftover | Determines the square root of a perfect square  144 = 2 × 2 × 2 × 2 × 3 × 3 = 2 × 2 × 3 × 2 × 2 × 3 = 12 × 12$\sqrt{144}$ = 12 | Estimates the square root of a non-perfect squareI know that $\sqrt{81}$ = 9 and $\sqrt{100}$ = 10, so I estimate that $\sqrt{90}$ is approximately 9.5 because 90 is about halfway between 81 and 100. |
| **Observations/Documentation** |
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