Unit 1A

Exponent Rules
- Neg. Exp. 1
- Power of 0
  1. Make reciprocal
  2. Drop Exp. → Make +
  \(2^{-2} = \frac{1}{2^2}\)

Product of Powers
- If base same, add exp:
  \(3^5 \times 3^5 = 3^{10}\)

Power to Power
- If base is raised exp, keep base, mult. exp:
  \((8^5)^6 = 8^{30}\)

Quotient of Powers
- If base same, sub exp:
  \(\frac{7^5}{7^3} = 7^2\)

Integer Rules

<table>
<thead>
<tr>
<th>Add &amp; Subt</th>
<th>Mult &amp; Divide</th>
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<tbody>
<tr>
<td>Same Diff.</td>
<td>Same Diff.</td>
</tr>
<tr>
<td>+ + Subt. &amp; Keep Sign of Big #</td>
<td>+ + Always Positive</td>
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Unit 1A

Scientific Notation
- Question \(\times 10^n\)
- \(5.307 \times 10^6 \rightarrow 5,307,000\)
- \(1.53 \times 10^{-4} \rightarrow 0.000153\)

Square Root
- Non-perfect
  - \(\sqrt{64} = 8\)
  - Estimate using free:
    \(\sqrt{14} \approx 3.74165\)
- Rational
  - Terminates
    \(3.14765\ldots\)
  - Repeats
    \(\frac{1}{3}\)
- Irrational
  - Non-terminate
  - Non-repeating
  - Non-perfect Square:
    \(\sqrt{10}\)