<table>
<thead>
<tr>
<th>Multiplication Rules</th>
<th>Division Rules</th>
</tr>
</thead>
<tbody>
<tr>
<td>(( + ) \times ( + )) (= ( + ))</td>
<td>(( + ) \div ( + )) (= ( + ))</td>
</tr>
<tr>
<td>(( - ) \times ( - )) (= ( + ))</td>
<td>(( + ) \div ( - )) (= ( - ))</td>
</tr>
<tr>
<td>(( + ) \times ( - )) (= ( - ))</td>
<td>(( + ) \div ( + )) (= ( - ))</td>
</tr>
</tbody>
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Examples:

<table>
<thead>
<tr>
<th>Example</th>
<th>Solution</th>
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<tbody>
<tr>
<td>(4 \times 6 = 24)</td>
<td>(27 \div 3 = 9)</td>
</tr>
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<td>((- 4) \times (-6) = 24)</td>
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<table>
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<th>Addition Rules</th>
<th>Subtraction Rules</th>
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<tbody>
<tr>
<td>(( + ) + ( + ) = ( + ))</td>
<td>Think of subtraction of a number as adding the opposite of that number.</td>
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</table>
| \(( - ) + ( - ) = ( - )\) | **Example:** Simplify \(8 - 12\)  
\(8 - 12 = 8 + (-12) = -4\)  
8 minus 12 is the same as 8 plus the opposite of 12 (or \(-12\)). The result is \(-4\). |

For \(( + ) + ( - )\) or \(( - ) + ( + )\):
- Take numbers without their signs (also known as the absolute value).
- Subtract the smaller from the larger.
- Attach the original sign from the larger number.

**Example:** Simplify \((-14) + 10\)
- Consider 14 (larger) and 10 (smaller) without their signs.
- Subtract 10 from 14.
- Since 14 was the larger number and had a negative \((-\) sign in front of it, the result is \(-4\).

**Example:** Simplify \(-10 + 14\)
- Consider 14 (larger) and 10 (smaller) without their signs.
- Subtract 10 from 14.
- Since 14 was the larger number and had a positive \((+)\) sign in front of it, the result is 4.

**Example:** Simplify \(-8 - (-12)\)
- \(-8 - (-12) = -8 + 12 = 4\)  
Negative 8 minus negative 12 is the same as negative 8 plus the opposite of 12 (or 12). The result is 4.
Thoughts on Notation

Multiplication
The following are all equivalent expressions for multiplication:
- $5 \times a$
- $5a$
- $5(a)$
- $(5)(a)$

Division
The following are all equivalent expressions for division:
- $4 \div x$
- $4 / x$
- $\frac{4}{x}$

Positive/Negative Number Notation

$-\frac{2}{3}$ is the same as $\frac{-2}{3}$ is the same as $\frac{2}{-3}$
(although the negative sign is never left in the denominator in standard notation)

$+\frac{2}{3}$ is the same as $\frac{2}{3}$