

Integers

- Rule 1:** When adding two positive numbers, find the sum of their absolute values, the answer is positive.
- Rule 2:** When adding two negative numbers, find the sum of their absolute values, the answer is negative.
- Rule 3:** When adding one positive and negative number, find the difference between their absolute values and use the sign of the integer with the greatest absolute value.
- Rule 4:** When subtracting numbers with different signs, change the sign of the subtrahend (second number) and add using Rule 1, 2, or 3.
- Rule 5:** When multiplying numbers with the same sign, the answer is positive.
- Rule 6:** When multiplying numbers with different signs, the answer is negative.

Example:

Simplify $(+5)(-4)(-3)$. R6, R5

$$\begin{aligned} (+5)(-4)(-3) &= (-20)(-3), \\ &= 60 \end{aligned}$$

Hint: As with all rules in math, these rules works for binary operations ,that is 2 numbers at a time

Simplify the following, before doing each problem write the rule to be used.

1. $(+5) + (+9)$

2. $(-3) + (-12)$

3. $(+4) + (-8)$

4. $(-10) - (+2)$

5. $(+14)(+2)$

6. $(-11)(-3)$

7. $(+15)(-6)$

8. $(-6) + (+10) + (-3)$

9. $2(-10)(-8)$

10. $-2 - 9 - 11$

11. $-4 + 25 + 1 - 3$

12. $(-1)(-7)(-9) + 2$

13. $(+3)(+3)(-6)$

14. $7(-4) - 10$

15. $-2 + 3(4) - 5(6)$