

\mathbb{N} \mathbb{W} \mathbb{Z} \mathbb{Q} \mathbb{Q}^- \mathbb{R}
 13 13 13 $\frac{13}{1}$ 13 13

 $-\frac{4}{3}$ $-\frac{4}{3}$

 $-3 \overline{) \begin{array}{r} 4 \\ 3 \\ \hline 10 \end{array}} = -1 \frac{1}{3} = -1 \cdot \overline{) \begin{array}{r} 33 \\ 3 \\ \hline 10 \end{array}}$

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Algebra Power Tools

① Commutative Tool
Changing order → same result

→ + $a + b = b + a$
 • $a \cdot b = b \cdot a$

+ $5 + 3 = 3 + 5$
 $8 = 8 \checkmark$

• $5 \cdot 3 = 3 \cdot 5$
 $15 = 15 \checkmark$

$x + 2 = 4$
 $2 + x = 4$

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② Associative Tool

+ $a + (b + c) = (a + b) + c$
 • $a \cdot (b \cdot c) = (a \cdot b) \cdot c$
 $(a)(b \cdot c) = (a \cdot b)(c)$

order stays the same → same result
↳ association changes

$2 + (3 + 4) = (2 + 3) + 4$
 $2 + 7 = 5 + 4$
 $9 = 9$

$2 + (x + 3) = 10$
unlike

① $2 + (x + 3) = 10$
 ② $2 + (3 + x) = 10$
Comm.

③ $(2 + 3) + x = 10$
assoc.
↳ like

④ $5 + x = 10$

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③ Additive Identity
 "0" → zero

$12 + 0 = 12$

$5 + x = 10$
 +
 $-5 + 0 = -5$

$0 + x = 5$
 ↑
 a.d.

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$x - 6 = 12$
 $0 + 6$ $+ 6$

$x + 0 = 18$
 $x = 18$

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$5 - 5 = 0$
 $5 + (-5) = 0$

$(-3x^6 + 4x^3 + 6x^2 - x) - (x^2 + 6x^4)$
 $-(4x + 2)$

Do #3
 reach "E"

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