

Equations With Special Solutions

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Equations can Have...

- 1 Solution
 - No Solution
 - Infinite Solutions
- Special Solutions
- The coefficients are the same on BOTH Sides.

No Solutions = Null Set Equations
 $3 \neq 4$ $2 \neq -2$

Infinite Solutions = Identity Equations
 $4 = 4$ $-1 = -1$

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Practice

$$\textcircled{1} \quad \begin{array}{r} 2x + 5 = 2x - 3 \\ -2x \quad -2x \\ \hline 5 \neq -3 \end{array}$$

NO SOLUTION

$$\textcircled{2} \quad \begin{array}{r} 3(x+1) - 5 = 3x - 2 \\ 3x + 3 - 5 = 3x - 2 \\ 3x - 2 = 3x - 2 \\ -3x \quad -3x \\ \hline -2 = -2 \end{array}$$

infinite Solutions

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$$\textcircled{3} \quad -3 + 12x = 12x - 3$$

$$\begin{array}{r} -12x \quad -12x \\ \hline -3 = -3 \end{array}$$

Infinite
Solutions

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<p>4. $6(4+x) - 3 = 4(x-3) + 2x$</p> <p>$\underline{24} + 6x - \underline{3} = \underline{4x} - 12 + \underline{2x}$</p> <p>$6x + 21 = 6x - 12$</p> $\begin{array}{r} 6x + 21 = 6x - 12 \\ -6x \quad \quad -6x \\ \hline 21 \neq -12 \end{array}$ <p>No Solutions</p>	<p>5. $3(2a+3) - 2a = 4a + 10$</p> <p>$6a + 9 - 2a = 4a + 10$</p> <p>$4a + 9 = 4a + 10$</p> $\begin{array}{r} 4a + 9 = 4a + 10 \\ -4a \quad \quad -4a \\ \hline 9 \neq 10 \end{array}$ <p>NO Solution</p>
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Nov 8-9:45 AM