

Which is NOT a possible first step to solve for x in the following equation?

$$3(x + 8) = 48$$

- (a) subtract 8 from both sides
- (b) divide both sides by 3
- (c) distribute the 3
- (d) multiply both sides by 1/3

Nov 15-8:06 AM

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Nov 15-8:06 AM

Which of the following have no solution?

- (a) $3x + 4 = x + 2x - 10$
- (b) $2(x + 5) = x + 5 + 1 + 4 + x$
- (c) $x = x$
- (d) $2x - 4 = 10 - x$
- (e) $6x + x - 1 = 7x + 20$

Nov 15-8:10 AM

Which of the following have no solution?

- ~~(a) $3x + 4 = x + 2x - 10$~~ $3x + 4 \neq 3x - 10$
- (b) $2(x + 5) = x + 5 + 1 + 4 + x$
 $2x + 10 = 2x + 10$ Infinite
- (c) $x = x$ Infinite
- (d) $2x - 4 = 10 - x$ Sometimes true
- ~~(e) $6x + x - 1 = 7x + 20$~~ $7x - 1 \neq 7x + 20$

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Let $a=-2$, $b=-3$, and $c=5$

$$a^2 - b - c^2$$

Nov 29-9:39 PM

Let $a=-2$, $b=-3$, and $c=5$

$$\begin{array}{l}
 a^2 - b - c^2 \\
 (-2)^2 - -3 - 5^2 \\
 \underline{4 + 3} - 25 \\
 7 - 25 = \textcircled{-18}
 \end{array}
 \qquad
 \begin{array}{l}
 -2^2 = -4 \\
 (-2)^2 = 4
 \end{array}$$

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$$(4 + 3 \cdot 2)^2 - 2 \cdot 6 \div 3 \cdot 4$$

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$$\begin{array}{l}
 (4 + 3 \cdot 2)^2 - 2 \cdot 6 \div 3 \cdot 4 \\
 \textcircled{(4+6)^2} - 2 \cdot 6 \div 3 \cdot 4 \\
 \textcircled{(10)^2} - 2 \cdot 6 \div 3 \cdot 4 \\
 100 - 2 \cdot 6 \div 3 \cdot 4 \\
 100 - \underline{12 \div 3 \cdot 4} \\
 100 - 4 \cdot 4 \\
 100 - 16 = 84
 \end{array}$$

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$$\frac{7}{x+2} = \frac{35}{7x-10}$$

$$\frac{7}{\cancel{x+2}} \times \frac{35}{\cancel{7x-10}}$$

$$7(7x-10) = 35(x+2)$$

$$49x - 70 = 35x + 70$$

$$\begin{array}{r} -35x \quad -35x \\ \hline 14x - 70 = 70 \\ +70 \quad +70 \\ \hline 14x = 140 \quad \boxed{x=10} \end{array}$$

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Let $x=3$, $y=5$, $z=-2$

Simplify:

$$(xz)^2 - y$$

Let $x=3$, $y=5$, $z=-2$

Simplify:

$$(xz)^2 - y$$

$$(3 \cdot -2)^2 - 5$$

$$(-6)^2 - 5$$

$$36 - 5 = \boxed{31}$$

Nov 12-12:55 PM

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$$3(x+3) + 3x - 4 = 1 + 2x + 4(x + 1)$$

$$3(x+3) + 3x - 4 = 1 + 2x + 4(x + 1)$$

$$3x + 9 + 3x - 4 = 1 + 2x + 4x + 4$$

$$\begin{array}{r} 6x + 5 = 6x + 5 \\ -6x \quad -6x \\ \hline \end{array}$$

$$5 = 5$$

Infinite Solutions

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Solve for x: $5y - 10x = -60$

Solve for x: $5y - 10x = -60$

$$\begin{array}{r} -5y \quad -5y \\ \hline \end{array}$$

$$\frac{-10x = -5y - 60}{-10} \quad \frac{-5y}{-10} \quad \frac{-60}{-10}$$

$$x = \frac{-5y - 60}{-10} \quad \text{or} \quad x = \frac{1}{2}y + 6$$

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Solve for m: $A = \frac{1}{4}mrq$

Solve for m: $4(A) = 4(\frac{1}{4}mrq)$

$$\frac{4A}{r q} = \frac{m r q}{r q}$$

$$m = \frac{4A}{r q}$$

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Solve: $\frac{1}{2}x + 3(x-2) = \frac{3}{5}x + \frac{1}{10}x - \frac{2}{5}$

Solve: $\frac{5(10)}{1}(\frac{1}{2}x) + 3(10)(x-2) = \frac{3(10)}{5}x + \frac{1(10)}{10}x - \frac{2(10)}{5}$

$$5x + 30(x-2) = 6x + 1x - 4$$

$$5x + 30x - 60 = 7x - 4$$

$$35x - 60 = 7x - 4$$

$$\begin{array}{r} 35x - 60 \\ -7x + 60 \\ \hline 28x = 56 \\ x = 2 \end{array}$$

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Solve: $.08x + 0.5 - 0.07x = 1 + 0.4 + 0.01x$

Solve: $[\underset{100}{.08}x + 0.5 - \underset{100}{.07}x] = [1 + 0.4 + 0.01x]$

$$8x + 50 - 7x = 100 + 40 + 1x$$

$$x + 50 = x + 140$$

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

$$50 \neq 140$$

No Solution

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Solve: $8 - 2(x - 6) = 7 - 3(2 + x) + 1$

Solve: $8 - 2(x - 6) = 7 - 3(2 + x) + 1$

$$8 - 2x + 12 = 7 - 6 - 3x + 1$$

$$\begin{array}{r} -2x + 20 = -3x + 2 \\ +3x - 20 \quad +3x - 20 \\ \hline x = -18 \end{array}$$

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Translate and solve:

Three times the difference of a number and five is twelve.

Translate and solve:

Three times the difference of a number and five is twelve. Let n = the #

$$\frac{3(n-5)}{3} = \frac{12}{3}$$

$$\begin{array}{r} n-5 = 4 \\ +5 \quad +5 \\ \hline n = 9 \end{array}$$

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Translate and solve.

Seven less than the product of a number and five is the same as thirty-three.

Translate and solve.

Seven less than the product of a number and five is the same as thirty-three.

Let n = the #

$$\begin{array}{r} 5n - 7 = 33 \\ +7 \quad +7 \\ \hline 5n = 40 \\ \frac{5n}{5} = \frac{40}{5} \\ n = 8 \end{array}$$

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Translate and solve.

Ten diminished by six times a number is equivalent to the product of a number and six increased by one.

Translate and solve.

Ten diminished by six times a number is equivalent to the product of a number and six increased by one.

Let $n = \text{the \#}$

$$\begin{array}{r} 10 - 6n = 6n + 1 \\ +6n \quad +6n \\ \hline 10 = 12n + 1 \\ -1 \quad -1 \\ \hline 9 = 12n \\ \frac{9}{12} = \frac{12n}{12} \end{array} \quad \boxed{n = \frac{3}{4}}$$

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