

Visual organizer for solving equations: do PEMDAS first, then balance sides

Equation

$$3(x-5) + 2x + 14 = 4(2x-6) + 2^4 - \sqrt{25}$$

Work out Parenthesis and Exponents

$$3x - 15 + 2x + 14 = 8x - 24 + 16 - 5$$

Multiply and Divide on the same side

$$5x - 15 + 14 = 8x - 24 + 16 - 5$$

Combine like terms on the same side

$$5x - 1 + 13 = 8x - 13 + 13$$

Add/subtract number(s) from both sides

$$5x + 12 = 8x$$

Add/subtract variable from both sides

$$\frac{12}{3} = \frac{3x}{3}$$

Multiply/divide both sides

$$4 = x$$

Answer =

4

Check answer $x =$

$$\begin{array}{ccccccc} 3(4-5) & + & 2 \cdot 4 & + & 14 & = & 4(2 \cdot 4 - 6) + 2^4 - \sqrt{25} \\ -3 & + & 8 & + & 14 & = & 8 + 16 - 5 \\ 19 & & & & & = & 19 \end{array}$$

