

Finding Solutions to Equations--giving them one, no, or infinite solutions

Big Ideas:

*An equation with one solution will produce an answer that is true at one point, such as $x = -6$

*An equation with no solution will produce a nonsense answer that is never true, such as $2 = 7$

*An equation with infinite solutions will produce an answer that is always true, such as $9 = 9$

Example: Find values for a and b to make what is asked for true:

$$\begin{array}{l} \overset{\curvearrowright}{-2(4x - 5)} = ax + b \\ -8x + 10 \end{array}$$

One solution a = $\frac{\text{anything}}{-8}$ b = $\frac{\text{anything}}{\text{but } 10}$
No solution a = $\frac{-8}{\text{anything}}$ b = $\frac{\text{anything}}{\text{but } 10}$
Infinite solutions a = $\frac{-8}{\text{anything}}$ b = $\frac{10}{\text{anything}}$