

1 - 3

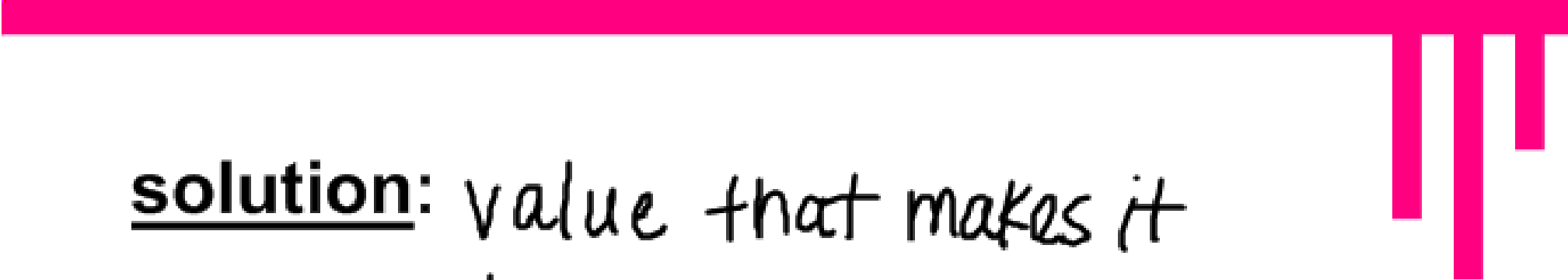
Open Sentences

open sentence: math statement
with one or more variables

* can be true or false
depending what you plug in

$$5 + x = 8$$

2 false 3 true



solution: value that makes it true

equation: sentence with an = sign

Ex: Find the solution set for the equation $6n + 7 = 37$ if the replacement set is $\{ 3, 4, 5, 6, 7 \}$.

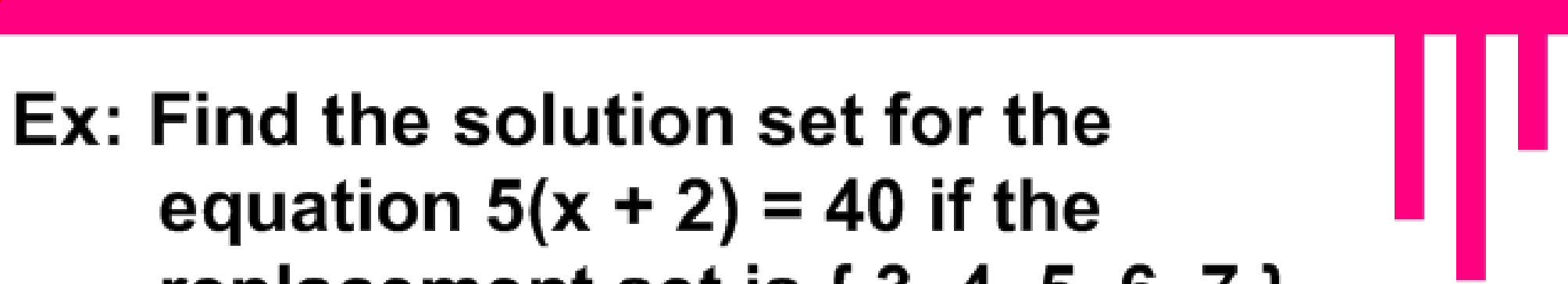
$$6 \cdot 3 + 7 = 37$$

$$6 \cdot 4 + 7 = 37$$

$$6 \cdot \textcircled{5} + 7 = 37 \quad \checkmark$$

$$6 \cdot 6 + 7 = 37$$

$$6 \cdot 7 + 7 = 37$$



Ex: Find the solution set for the equation $5(x + 2) = 40$ if the replacement set is $\{ 3, 4, 5, 6, 7 \}$.

Ex: Solve $\frac{13 + 2(4)}{3(5 - 4)} = p$

$$\frac{13 + 8}{3(1)} = p$$

$$\frac{21}{3} = p$$

$$7 = p$$

Ex: Solve $\frac{5(8 + 2)}{18 - (5 - 3)^3} = k$

$$\frac{5(10)}{18 - 2^3} = k$$

$$\frac{50}{18 - 8} = k$$

$$\frac{50}{10} = k$$

$(5 = k)$

inequality: open sentence using

$<$, \leq , $>$, \geq

$$x < 2$$

Ex: Find the solution set for
 $18 - y < 10$ if the replacement set
is $\{7, 8, 9, 10, 11, 12\}$.

$$18 - 7 < 10$$


$$18 - 8 < 10$$

$$18 - 9 < 10 \checkmark$$


$$18 - 10 < 10 \checkmark$$

$$18 - 11 < 10 \checkmark$$

$$18 - 12 < 10 \checkmark$$



Why did this type of problem have more than one solution?



**Ex: Find the solution set for
 $z + 11 > 32$ if the replacement set
is $\{20, 21, 22, 23, 24\}$.**



No Homework! :)