Ch1.8 Solving Linear Systems by using Substitution
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The sum of two numbers is 377 and their difference is 107. Find the numbers

① $x+y=377$
② $x-y=107$

S1
① $y=-x+377$
② $\frac{-y}{-1}=\frac{-x}{-1}+\frac{107}{-1}$
$y=x-107$

Thought?

Substitution
Sub ① into ②

S2
② $x-(-x+377)=107$
$=x+x-377=107$
$2x=107+377$
$\frac{2x}{2}=\frac{484}{2}$
$x=242$

S3
Solve for y
sub $x=242$ into ②
$(242)-y=107$
$-y=107-242$
$\frac{-y}{-1}=\frac{-135}{-1}$
$y=135$

S4 check $(242,135)$

(54) check (242, 135)

(1) $x + y = 377$

LS $= 242 + 135 = 377$

RS $= 377$

$\therefore$ LS = RS

(2) $x - y = 107$

LS $= 242 - 135 = 107$

RS $= 107$

$\therefore$ LS = RS

Conclusion: Since both equations are satisfied therefore (242, 135) is the solution.

1.8 substitution

p92
q4-8 odd letters,
q12 pick 2 letters
q13, 14

Look Ahead lesson 1.9