

7WP - Word Problems with Systems

Tip: Read WP's 3+ timesSETUP WORK LIKE THIS!

① KEY INFORMATION (KI):

② DEFINE 2 VARIABLES BY LOOKING AT THE QUESTION GIVEN IN THE WP.

 $x =$ _____ $y =$ _____Remember UNITS
($\$$'s, $\#$'s)

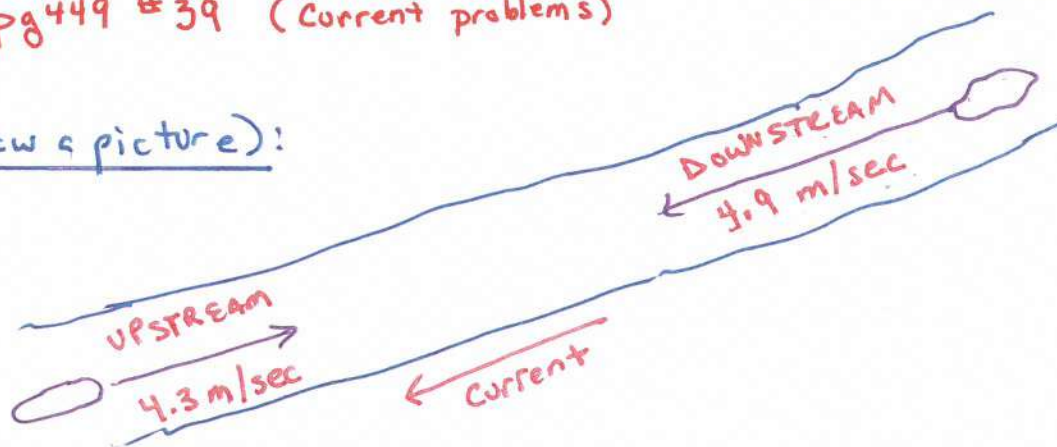
③ DEFINE 2 EQUATIONS

EQ 1: _____

EQ 2: _____

④ SOLVE AND SEE IF SOLUTION MAKE SENSE

⑤ WRITE YOUR ANSWER IN A SENTENCE.

From 7.3 Pg 449 #39 (Current problems)KI (draw a picture): $x =$ avg speed in still water (m/sec) $y =$ avg speed of current (m/sec)

EQ 1 (UPSTREAM):

EQ 2 (DOWNSTREAM):

$$x - y = 4.3$$

$$x + y = 4.9$$

$$2x = 9.2$$

$$\frac{2}{2} \quad \frac{2}{2}$$

$$x = 4.6$$

FIND Y:

$$4.6 + y = 4.9$$

$$-4.6 \quad -4.6$$

$$y = 0.3$$

THE SPEED IN STILL WATER IS 4.6 m/sec and the
SPEED OF THE CURRENT IS 0.3 m/sec.

From 7.4 Pg 456 #39 (APPLES)

KI: 169 GRANNY SMITH APPLES
95 GOLDEN DELICIOUS APPLES

PIE NEEDS 5 GRANNY + 3 DELICIOUS
SAUCE NEEDS 4 GRANNY + 2 DELICIOUS

x = # of apple pies made
 y = # of apple sauce made

EQ 1 (GRANNY SMITH):
EQ 2 (GOLDEN DELICIOUS):

$$\begin{array}{rcl} (5x + 4y = 169) \times 3 & \rightarrow & 15x + 12y = 507 \\ (3x + 2y = 95) \times -5 & \rightarrow & -15x - 10y = -475 \\ \hline & & 2y = 32 \end{array}$$

$$\frac{2y}{2} = \frac{32}{2}$$

$$y = 16$$

FIND X:

$$5x + 4(16) = 169$$

$$5x + 64 = 169$$

$$-64 \quad -64$$

$$\frac{5x}{5} = \frac{105}{5}$$

$$x = 21$$

THEY CAN MAKE 21 apple pies and
16 apple sauces