

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.

$$X = \underline{\hspace{2cm}}$$

$$Y = \underline{\hspace{2cm}}$$

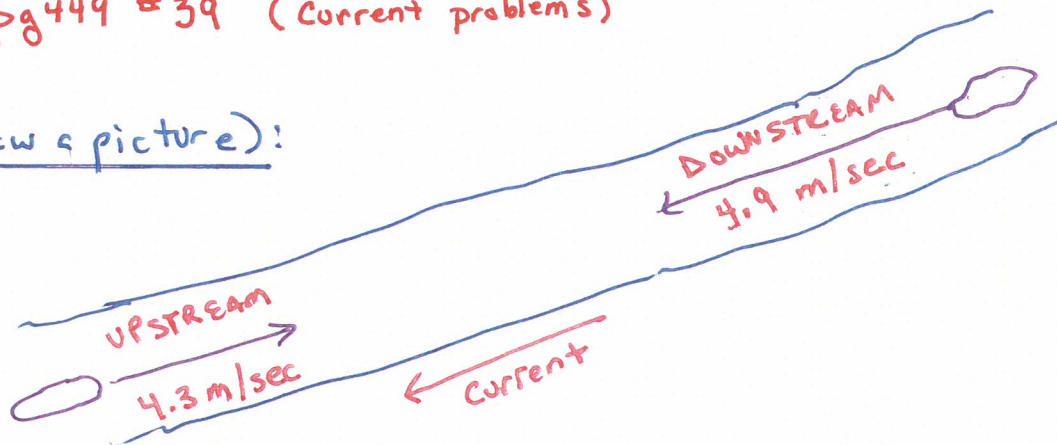
Remember UNITS
(#'s, #)'s)

- 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):

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

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

$y = 16$

FIND X:

$$\begin{array}{r} 5x + 4(16) = 169 \\ 5x + 64 = 169 \\ -64 \quad -64 \\ \hline 5x = 105 \\ \frac{5x}{5} = \frac{105}{5} \\ \boxed{x = 21} \end{array}$$

THEY CAN MAKE 21 apple pies and
16 apple sauces