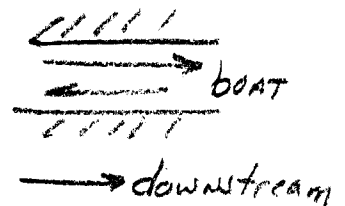


Homework #3 - Alg. 1 ~ #21 & 22

- (21) 234 mi total $\Rightarrow$ NOT Clear! 234 $\rightarrow$?
time $\rightarrow$ = 13 hrs $\leftarrow$ = 39 hrs or 117 $\rightarrow$.

Assume 234 mi. each way



Let b = speed of boat (rate)

c = speed of current (rate)

down stream $\Rightarrow r = b + c$

up stream $\Rightarrow r = b - c$

$$d = rt$$

$$\begin{cases} 234 = (b + c)13 \rightarrow 234 = 13b + 13c \\ 234 = (b - c)39 \rightarrow 234 = 39b - 39c \end{cases}$$

$$\text{EBA} \begin{cases} 234 = 13b + 13c \xrightarrow{(3)} 702 = 39b + 39c \\ 234 = 39b - 39c \rightarrow \oplus 234 = 39b - 39c \end{cases}$$

$$\begin{array}{r} 936 = 78b \\ \hline 78 \quad 78 \end{array}$$

$$\boxed{12 = b \frac{\text{mi}}{\text{hr}}}$$

$$\therefore 234 = 13(12) + 13c$$

$$234 = 156 + 13c$$

$$\frac{78}{13} = \frac{13c}{13}$$

$\therefore$

$$\boxed{6 = c \frac{\text{mi}}{\text{hr}}}$$

(22) HSA $\Rightarrow$ 6 VANS, 11 buses $\Rightarrow$ 632 STUDENTS

HSB $\Rightarrow$ 12 VANS, 7 buses $\Rightarrow$ 484 STUDENTS

EACH VAN & BUS FILLED & CARRIED SAME
NUMBER PER VAN & BUS. HOW MANY STUDENTS
PER VAN? PER BUS?

Let V = NUMBER OF STUDENTS PER VAN

B = NUMBER OF STUDENTS PER BUS

$$\therefore \begin{cases} 632 = 6V + 11B & \xrightarrow{(-2)} -1264 = -12V - 22B \\ 484 = 12V + 7B & \rightarrow 484 = 12V + 7B \end{cases}$$

$$\begin{array}{r} -780 = -15B \\ \hline -15 \quad -15 \end{array}$$

$$\frac{780}{15} = B$$

$$\frac{156}{3} = B$$

$$\boxed{52 = B}$$

$$\therefore 484 = 12V + 7(52)$$

$$484 = 12V + 364$$

$$\frac{120}{12} = \frac{12V}{12}$$

$$\therefore \boxed{10 = V}$$