Ex. Score: 0 of 1 pt 1.2.13

Solve the formula for the F_1.

$$\frac{1}{F}=\frac{1}{F_1}+\frac{1}{F_2}+\frac{1}{F_3}$$

LCD $= FF_1F_2F_3$

I don't prefer clearing fractions, because (SPOILER) I know what comes after

$$\left(\frac{1}{F}=\frac{1}{F_1}+\frac{1}{F_2}+\frac{1}{F_3}\right)(FF_1F_2F_3)$$

$$\frac{1}{F}\cdot FF_1F_2F_3=\frac{1}{F_1}\cdot FF_1F_2F_3+\frac{1}{F_2}\cdot FF_1F_2F_3+\frac{1}{F_3}\cdot FF_1F_2F_3$$

$$F_1F_2F_3=FF_2F_3+FF_1F_3+FF_1F_2$$

$$-FF_1F_3-FF_1F_2=-FF_1F_3-FF_1F_2$$

$$F_1F_2F_3-FF_1F_3-FF_1F_2=FF_2F_3$$

$$F_1\left(\frac{F_1F_2F_3}{F_1}-\frac{FF_1F_3}{F_1}-\frac{FF_1F_2}{F_1}\right)=FF_2F_3$$

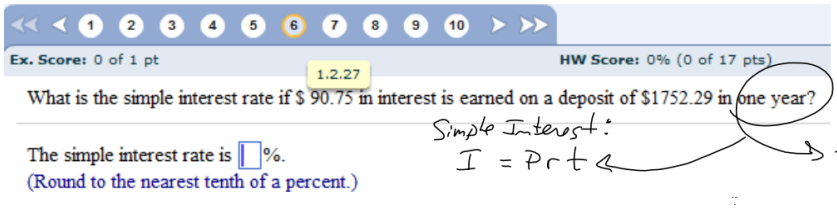
$$F_1\left(F_2F_3-FF_3-FF_2\right)=FF_2F_3$$

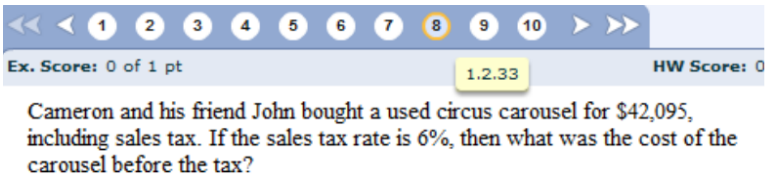
$$\square = F_2F_3-FF_3-FF_2$$

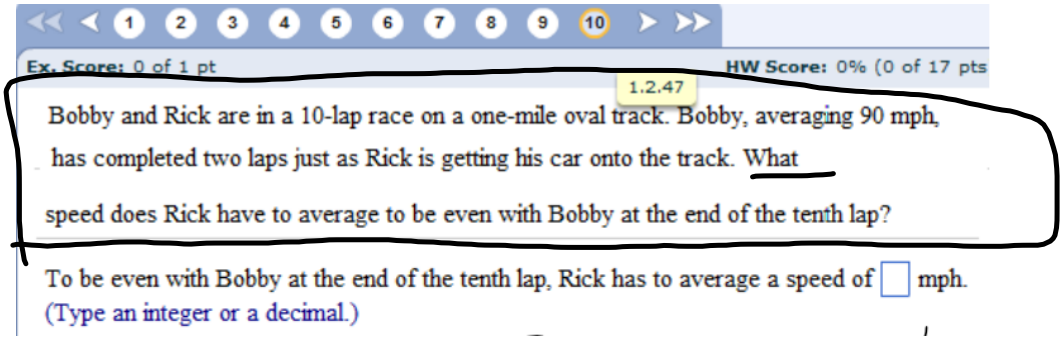
$$F_1\cdot\square=FF_2F_3$$

$$\frac{F_1\cdot\square}{\square}=\frac{FF_2F_3}{\square}=F_1$$

$$F_1=\frac{FF_2F_3}{F_2F_3-FF_3-FF_2}$$


1 2 3 4 5 6 7 8 9 10
Ex. Score: 0 of 1 pt
HW Score: 0% (0 of 17 pts)
1.2.27
What is the simple interest rate if $ 90.75 in interest is earned on a deposit of $1752.29 in one year?
The simple interest rate is %.
(Round to the nearest tenth of a percent.)
Simple Interest:
I = Prt
t = 1


1 2 3 4 5 6 7 8 9 10
Ex. Score: 0 of 1 pt
HW Score: 0
1.2.33
Cameron and his friend John bought a used circus carousel for $42,095, including sales tax. If the sales tax rate is 6%, then what was the cost of the carousel before the tax?



one-mile track

Bobby's speed is $90 \frac{mi}{hr}$

Bobby's done 2 laps.

Want to know Rick's average speed, assuming he finishes in a tie after 10 laps.

Let r = Ricky's average speed (in $\frac{mi}{hr}$)

	D	R	t
Bobby	8	90	t
Ricky	10	r	t

$t = t$

$D = rt \Rightarrow t = \frac{D}{r}$

$\left(\frac{8}{90} = \frac{10}{r}\right) 90r$

Cross multiply:

$8r = 900$

$r = \frac{900}{8} = 112.5 \frac{mi}{hr} = r$

11 12 13 14 15 16 17

Ex. Score: 0 1.2.49 HW Score: 0% (0 of 17 pts)

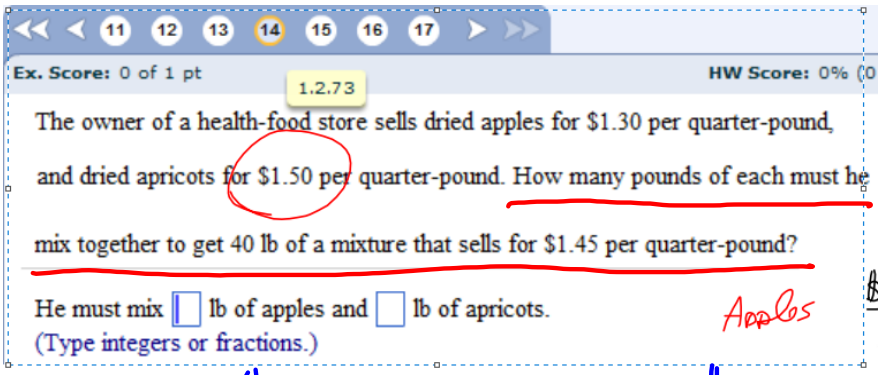
Fritz normally commutes at an average speed of 48 miles per hour, but this morning's heavy traffic held him to only 40 miles per hour. He must determine whether he can drive home fast enough this evening in order to maintain his usual round-trip average speed.

In order to maintain his usual average round-trip speed, Fritz will have to drive home at [ ] miles per hour.

	D	r	t
To Work	D	40	$\frac{D}{40}$
Back Home	D	r	$\frac{D}{r}$
Round trip	2D	48	$\frac{2D}{48}$

$D = rt$

$t = \frac{D}{r}$



$\frac{1.50\ \$}{\frac{1}{4}\ lb} = (1.50)\left(\frac{4}{1}\right)\frac{\$}{lb} = 6\ \frac{\$}{lb}$

$\frac{1.30\ \$}{\frac{1}{4}\ lb} = 1.30 \cdot 4\ \frac{\$}{lb} = 5.20\ \frac{\$}{lb}$

$1.45 \cdot 4\ \frac{\$}{lb} = 5.80\ \frac{\$}{lb}$

Let x = the amount of apples (in lbs)

OR x = the # of lbs of apples.

y = ... apricots

Want 40 lbs worth $\frac{\$5.80}{lb}$

$5.80 \times 40 = 232.00$

TOTAL WEIGHT $x + y = 40 \Rightarrow y = 40 - x$

$\$$ $6\frac{\$}{lb} \times lb + 5.20\frac{\$}{lb} \cdot y\ lb = \frac{\$5.80}{lb} \cdot 40$

$\$ = \$$

$6x + 5.2y = 232$

$6x + 5.2(40 - x) = 232$

$6x + (5.2)(40) - 5.2x = 232$

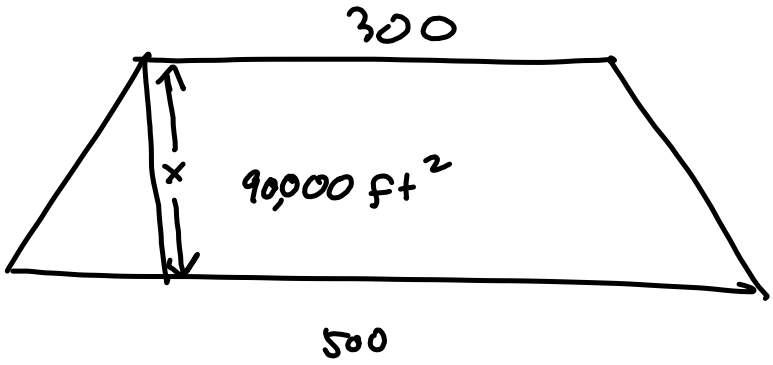
$-(5.2)(40) \quad = -(5.2)(40) + 232$

$.8x = -5.2(40) + 232$

$x = \frac{-5.2(40) + 232}{.8}$

$x = 30$ lbs

$y = 10$ lbs



$A = \frac{1}{2}(b_1 + b_2)\,x$

Let x = the distance between the streets (in ft)

Then $\frac{1}{2}(300+500)x = 90{,}000$

$$\frac{1}{2}(300\text{ ft} + 500\text{ ft})\,x\text{ ft} = 90000\text{ ft}^2$$

ft · ft

$400x = 90000$

$x = \frac{90000}{400} = \frac{900}{4}$ $= 225$ ft $= x$