

# Math 5a HW 6.

#1  $7 + 4 + 5 = 16$  parts of fruits altogether.

$$1600 : 16 = 100 \text{ g.}$$

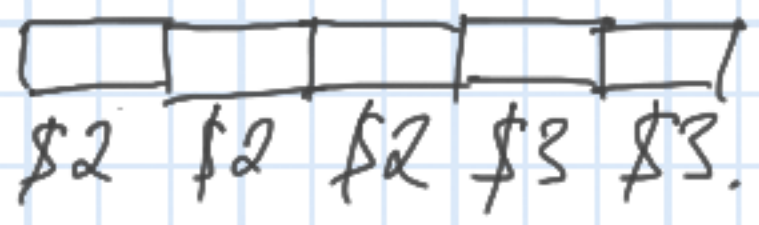
$7 \cdot 100 = 700 \text{ g}$  of apples

$4 \cdot 100 = 400 \text{ g}$  of pears

$5 \cdot 100 = 500 \text{ g}$  of apricot.

#2.

For each 5 lb of mixture there will be



3 pounds of candies \$2 per lb  
and 2 pounds of candies \$3 per lb.

total price of 5 lb of mixture will be

$$3 \cdot 2 + 2 \cdot 3 = 12 \$,$$

$$12 : 5 = 2.4 \text{ or } \$ 2.40 \text{ per pound.}$$

#3.

$x$  - total amount of money.

$$0.15x - 1.5 + \frac{3}{5}x + 0.3 = x.$$

$$x - 0.15x - \frac{3}{5}x = 1.5 + 0.3.$$

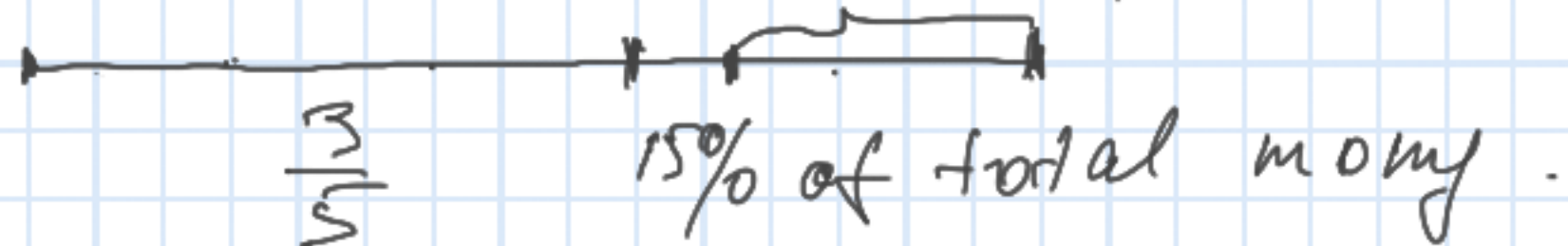
$$\frac{2}{5}x - 0.15x = 1.8$$

$$0.4x - 0.15x = 1.8$$

$$0.25x = 1.8.$$

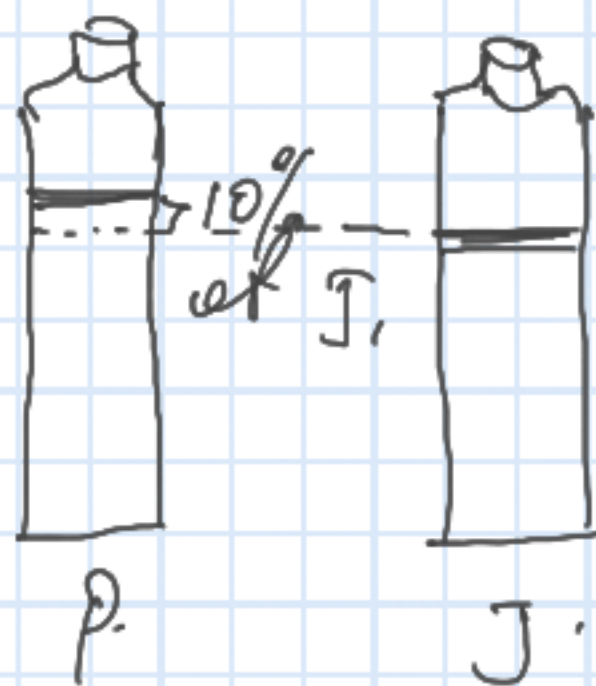
$$x = 1.8 \cdot 4 = 7.2$$

or we can do it informally.



$\frac{1}{4}$  of the total amount of money is \$1.8.

#4.



John has  $x$  ml of soda  
Peter has  $1.1x = x + 0.1x$   
after Peter drank some soda  
there is  $0.89(1.1x)$  ml of soda, or  
 $0.976$

John drank 2%, so 98% of  
his soda left. He has now  
 $0.98x$ .

$$0.976x < 0.98x.$$

# 5.

$$a. \quad \frac{x}{7.2} = \frac{1\frac{1}{9}}{0.25}$$

$$0.25x = 1\frac{1}{9} \cdot 7.2$$

$$\frac{1}{4}x = \frac{10}{9} \cdot \frac{72}{10}$$

$$\frac{1}{4}x = \frac{10 \cdot 8 \cdot \cancel{9}}{9 \cdot 10} = 8.$$

$$x = 8 \cdot 4 = 32$$

$$b. \quad \frac{2\frac{1}{3}}{0.6x} = \frac{2.5}{1\frac{2}{7}}$$

$$2\frac{1}{3} \cdot 1\frac{2}{7} = 2.5 \cdot 0.6x$$

$$\frac{7}{3} \cdot \frac{9}{7} = 1.5x$$

$$\frac{\cancel{7} \cdot 3 \cdot 3}{3 \cdot \cancel{7}} = 1.5x$$

$$1.5x = 3$$

$$x = 3 : \frac{3}{2} = 3 \cdot \frac{2}{3} = 2$$

$$c. \frac{\frac{7}{12}}{0.14} = \frac{50x}{4.8}$$

$$\frac{7}{12} \cdot 4.8 = 50x \cdot 0.14$$

$$\frac{7}{12} \cdot \frac{48}{10} = 7x$$

$$\frac{\cancel{7} \cdot \cancel{12} \cdot 4}{\cancel{12} \cdot 10} = \cancel{7}x$$

$$x = \frac{4}{10} = 0.4$$

$$d. \frac{1\frac{3}{14}}{13.75} = \frac{2\frac{2}{11}}{3x}$$

$$1\frac{3}{14} \cdot 3x = 2\frac{2}{11} \cdot 13.75$$

$$\frac{60}{14} \cdot x = \frac{24}{11} \cdot 13\frac{3}{4}$$

$$\frac{60}{14} x = \frac{24}{11} \cdot \frac{55}{4}$$

$$\frac{60}{14} x = \frac{\cancel{6} \cdot \cancel{4} \cdot 5 \cdot \cancel{11}}{\cancel{11} \cdot \cancel{4}}$$

$$\frac{60}{14} x = 30$$

$$x = \frac{30 \cdot 14}{60} = \frac{14}{2} = 8\frac{1}{2}$$

#6

7777777, 7777777

5555555, 5555555

$1+2+3+4+5+6+7+6+5+4+3+2+1$

$1+2+3+4+5+4+3+2+1$

$$1+2+3+4+5+6+7+6+5+4+3+2+1 =$$

$$= \underbrace{1+6+2+5+3+4+4+3+5+2+6+1+7}_{\text{grouped pairs}} =$$

$$= 7+7+7+7+7+7+7 = 7 \cdot 7$$

$$7777777 = 7 \cdot 1111111$$

$$5555555 = 5 \cdot 1111111$$

$$1+2+3+4+5+4+3+2+1 = 1+4+2+3+3+2+4+1+5 =$$

$$= 5+5+5+5+5 = 5 \cdot 5$$

$$\rightarrow = \frac{7 \cdot 1111111 \cdot 7 \cdot 1111111}{7 \cdot 7} - \frac{5 \cdot 1111111 \cdot 5 \cdot 1111111}{5 \cdot 5}$$

$$= 1111111 \cdot 1111111 - 1111111 \cdot 1111111 = 0$$