

Math 4a HW 8

$$\# 1. \quad a. \quad 18:63 = \frac{18}{63} = \frac{2 \cdot 9}{7 \cdot 9} = \frac{2}{7}$$

$$b. \quad 2:5:7 = \frac{2}{5 \cdot 7} = \frac{2}{35}$$

$$c. \quad 2:8:3 = \frac{2 \cdot 3}{8} = \frac{3}{4}$$

$$d. \quad 100:6:40 = \frac{100 \cdot 6}{40} = \frac{2 \cdot 5 \cdot 2 \cdot 3}{2 \cdot 2} = 15$$

$$e. \quad 5:15:3 = \frac{5 \cdot 3}{15} = \frac{15}{15} = 1$$

$$f. \quad (21:18):14 = \frac{21 \cdot 18}{14} = \frac{7 \cdot 3 \cdot 2 \cdot 9}{2 \cdot 7} = 27$$

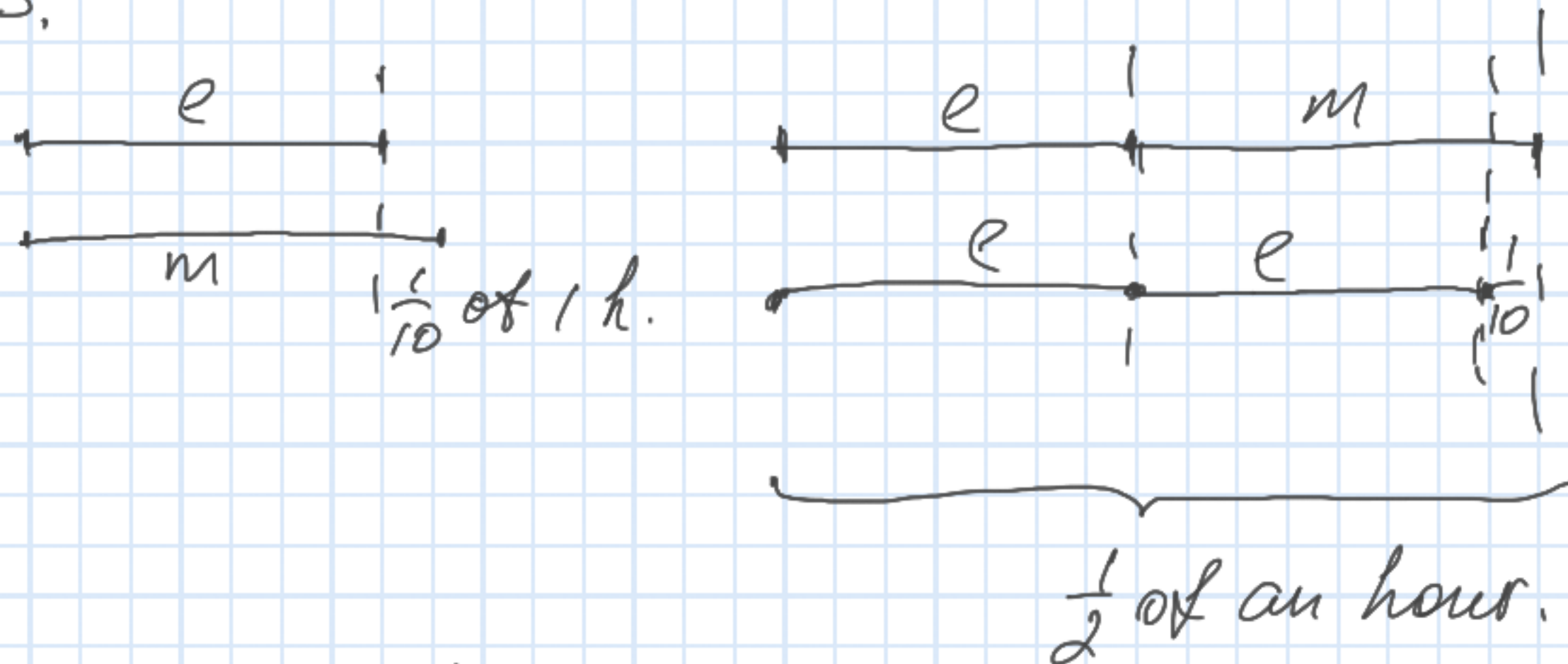
$$g. \quad 50:(16 \cdot 25) = \frac{50}{16 \cdot 25} = \frac{2 \cdot 25}{2 \cdot 8 \cdot 25} = \frac{1}{8}$$

$$1. (12 \cdot 15) : 40 = \frac{12 \cdot 15}{40} = \frac{3 \cdot \cancel{4} \cdot 3 \cdot \cancel{5}}{\cancel{4} \cdot 2 \cdot \cancel{5}} = \frac{9}{2} = 4\frac{1}{2}$$

$$2. (2 \cdot 24) : (2 \cdot 8) = \frac{2 \cdot 24}{2 \cdot 8} = \frac{\cancel{2} \cdot 3 \cdot \cancel{8}}{\cancel{2} \cdot \cancel{8}} = 3$$

$$\begin{aligned} \#2. \quad & \frac{3\frac{5}{11} \cdot 6\frac{3}{4}}{3\frac{5}{11} \cdot 6\frac{3}{4} + 3\frac{5}{11} \cdot 1\frac{1}{2}} = \frac{\cancel{3\frac{5}{11}} \cdot 6\frac{3}{4}}{\cancel{3\frac{5}{11}} \cdot (6\frac{3}{4} + 1\frac{1}{2})} = \frac{6\frac{3}{4}}{6\frac{3}{4} + 1\frac{1}{2}} \\ & = \frac{\frac{27}{4}}{\frac{27}{4} + \frac{3}{2}} = \frac{\frac{27}{4}}{\frac{27}{4} + \frac{6}{4}} = \frac{\frac{27}{4}}{\frac{33}{4}} = \frac{27}{4} \cdot \frac{4}{33} = \frac{3 \cdot 9}{3 \cdot 11} = \frac{9}{11} \end{aligned}$$

#3.



So, twice the time he was doing essay plus $\frac{1}{10}$ of an hour is exactly $\frac{1}{2}$ of an hour.

$$\begin{aligned} \text{essay time is } & \left(\frac{1}{2} - \frac{1}{10}\right) \cdot 2 = \left(\frac{3}{10} - \frac{1}{10}\right) \cdot 2 = \frac{4}{10} = \frac{1}{2} \\ & = \frac{2}{10} = \frac{1}{5} \text{ of an hour or } 60 : 5 = 12 \\ & \text{min.} \end{aligned}$$

$30 - 12 = 18$ minutes for math.

Or; twice the math problem time is

$$\frac{1}{2} + \frac{1}{10} = \frac{5}{10} + \frac{1}{10} = \frac{6}{10}$$

time for math problems is $\frac{6}{10} \cdot 2 = \frac{6}{10 \cdot 2}$

$$= \frac{3}{10} \text{ of an hour.}$$

$$60 : 10 \cdot 3 = 18 \text{ min.}$$

#4, $5 \text{ cm} \cdot 25 = 125 \text{ cm}$ or 1 m and 25 cm .

#5. $\frac{12}{2} \cdot 5 = 12 \cdot \frac{5}{2} = 12 \cdot \frac{2}{5} = 30$

a.

you can skip these steps
it's just for
understanding

$$b. \quad 9:3 \cdot 4 = \frac{9}{3} \cdot 4 = 12 \text{ cm}$$

$$c. \quad \frac{15}{3} \cdot 5 = 25 \text{ mm}$$

$$d. \quad \frac{8}{2} \cdot 7 = 28 \text{ m.}$$

$$\# 6. \quad \frac{42}{10} \text{ m for } \perp \text{ duvet.}$$

$$\frac{33}{15} \text{ m for 1 sheet.}$$

$$\frac{42}{10} + \frac{33}{15} = \frac{21}{5} + \frac{11}{5} = \frac{32}{5} \text{ m} = 6\frac{2}{5} \text{ m.}$$

#7.

$\frac{9}{10} m \rightarrow$ Mary's one step.

$\frac{14}{20} m \rightarrow$ Julia's one step.

$\frac{9}{10} = \frac{18}{20} > \frac{14}{20}$, Mary's step is longer.

#8.

$$\begin{aligned} 1. \quad 10 - 2\frac{1}{7} - 5\frac{4}{7} - \frac{3}{7} &= 10 - 2 - 5 - \frac{1}{7} - \frac{4}{7} - \frac{3}{7} \\ &= 3 - \left(\frac{1}{7} + \frac{4}{7} + \frac{3}{7}\right) = 3 - \left(\frac{1}{7} + 1\right) \\ &= 3 - 1 - \frac{1}{7} = 2 - \frac{1}{7} = 1\frac{6}{7}. \end{aligned}$$

2. Or, all numbers can be added

$$1\frac{4}{5} + 3\frac{2}{5} + 2\frac{1}{5} = 1 + 3 + 2 + \frac{4}{5} + \frac{2}{5} + \frac{1}{5} =$$

$$= 6 + 1 + \frac{2}{5} = 7\frac{2}{5}$$

$$10 - 7\frac{2}{5} = 10 - 7 - \frac{2}{5} = 3 - \frac{2}{5} = 2\frac{3}{5}$$

3.

Or

$$10 - 4 = 6.$$

$\frac{5}{9}$?
$2\frac{7}{9}$	$1\frac{2}{9}$

$$6 - \frac{5}{9} = 5\frac{4}{9}$$

$$4$$

4.

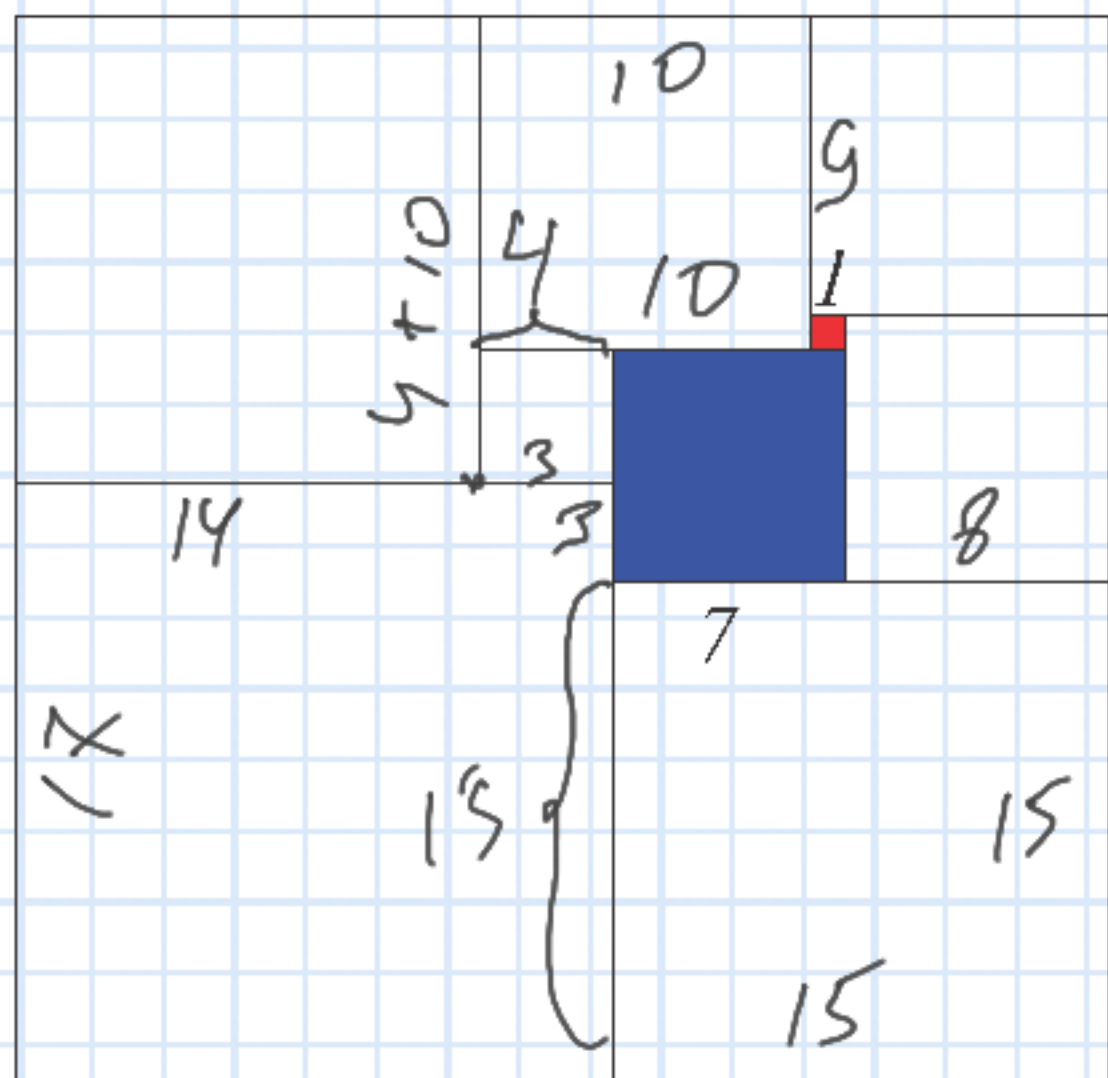
?	$6\frac{8}{11}$
$\frac{2}{11}$	$2\frac{5}{11}$

$$\frac{9}{11} - \frac{2}{11} = \frac{7}{11}$$

$$8 + \frac{13}{11} = 9\frac{2}{11}$$

$$10 - 9\frac{2}{11} = \frac{9}{11}$$

9.



$$15 + 7 + 9 = 32$$