What to bring to class:
Ask students to bring PM 4A and 5A.

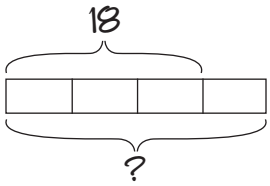
6.5 More Division of Fractions

[SAY: Today we will spend all of class on word problems. I will do a few, then you'll do some in small groups (of 2) and present them at the board.
Your HW is to write Teacher solution's to the problems in the text.
We will do some in class.]

Ex Sam spent $\frac{3}{4}$ of his money on an $18 book. How much money did he have at first?

This asks "18 is $\frac{3}{4}$ of what?" ⇒ P.D. for $18 \div \frac{3}{4}$

T.S.



3 units = 18

1 unit = 6

4 units = 24

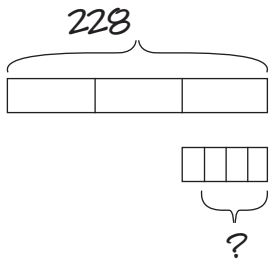
He had $24 at first.

Note: $18 \div \frac{3}{4} = \overset{6}{\cancel{18}} \times \frac{4}{\cancel{3}} = 24$.

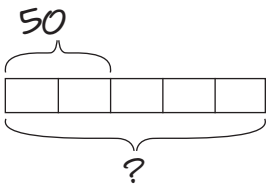
[Warm up: Assign problems (a), (c), (g), (h). From problem 5 of HW set 26, Assign 1 problem to each group of 2 students so that each group has a problem.

- While they are working, write problems on the board.
- Pick groups to give teacher's solution.
- Point out PD vs. MD for 1-step problems.

(a)

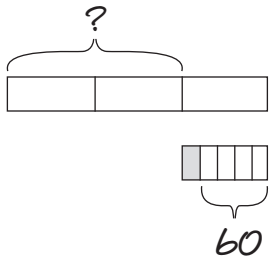


(c)

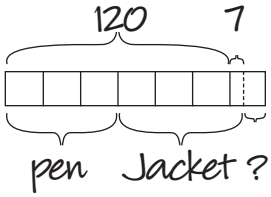


PD: "50 is $\frac{2}{5}$ of what."

(g)



(h)



He had \$13 left.

6 units = 127 − 7 = 120

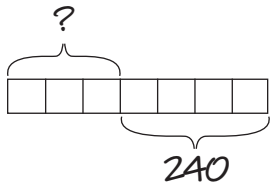
1 unit = 20

20 − 7 = \$13

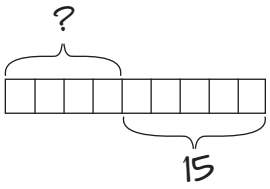
[Spend no more that 15 minutes!]

[Now assign word probs (b), (c), (f), (h) of prob 5 in HW set 27 as before.]

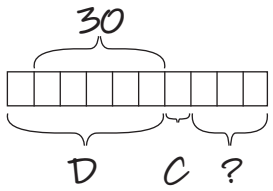
(b)



(c)



(f)



(h) [HARD!]

2 units = 8 bowls

1 unit = 4 bowls

⇒ 2 units = 6 Plates

1 unit = 3 Plates

5 units = 15 Plates.

[Note: try problem (h) using algebra only before class. Enjoy!

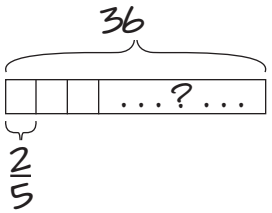
Singapore loves to give these type of problems.]

Creating Word problems [SAY: U.S. teacher's are notoriously bad at this!]

Ex 1 Write a word problem using MD for $36 \div \frac{2}{5}$.

(1) MD: "36 is how many $\frac{2}{5}$'s?"

(2) Draw diagram



(3) Answer $36 \div \frac{2}{5} = \overset{18}{\cancel{36}} \times \frac{5}{\cancel{8}} = 90$ (MIM)

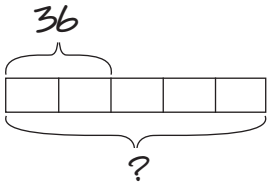
(4) Make up Word problem which would produce model:

Jenny has 36 yards of ribbon. It takes $\frac{2}{5}$'s of a yard to make a bow. How many bows can she make?

Ex 2 PD word problem for $36 \div \frac{2}{5}$.

(1) PD: 36 is $\frac{2}{5}$ of what?

(2) Draw diagram:



(3) Answer: 90

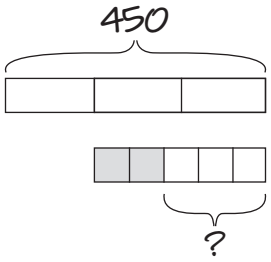
(4) Make problem. (PD works good for "before and after" situations)

John used 36 min of his break to eat lunch. If this was $\frac{2}{5}$'s of his total break time, how long is his break?

Multi step word problems

Replace step 2 with a more complicated model

HW set 27, prob 4 (c).



Solve the model:

3 units = 450

2 units = 300

5 units = 300

1 unit = 60 units

3 units = 180

Salley made 450 cookies. She sold $\frac{1}{3}$ of them and gave $\frac{2}{5}$'s of the remainder to some friends. How many did she have left?

HW Read & again. Do HW set 28.

(In problem 5g, change $\frac{2}{3} \rightarrow \frac{1}{3}$)