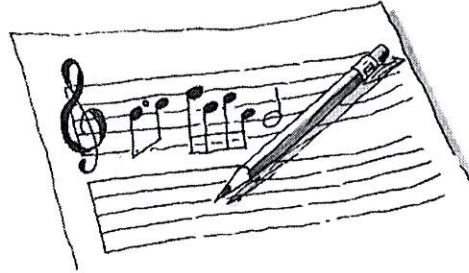


6.1.4 How does it make sense?

Solving Problems Involving Fraction Division



6-43. Dria is writing a piece of music.. Use diagrams to help you figure out how many $\frac{1}{8}$ notes she will need for each $\frac{3}{4}$ note. Then represent the problem and its solution with a division number sentence.



$\frac{3}{4}$ note.

$$\frac{1}{5} = \boxed{20}$$

$$\times 5 = \boxed{20}$$

6-44. Malik was catching up on homework when he noticed that he got the same answer dividing 3 by $\frac{1}{5}$ as he did when he multiplied 3 by 5.

He asked, "Is dividing by $\frac{1}{5}$ always the same as multiplying by 5?"

a) Draw a diagram of the problem.

b) Malik was looking at problem 6-43 and asked, "Does this work when both numbers are fractions? Can you find how many $\frac{1}{8}$ s are in $\frac{3}{4}$ by multiplying $\frac{3}{4}$ by 8?" What do you think? Use your diagram in 6-43 to help explain your thinking.

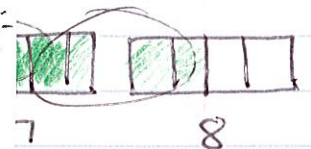
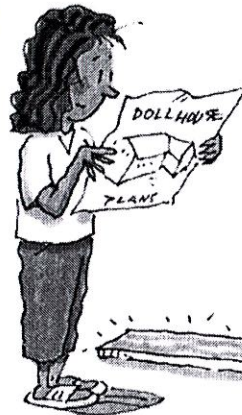
the
er when
l by 8.

6-45. DORA'S DOLLHOUSE, Part 1: Dora is building a dollhouse for her cousin. She needs several boards that are each $\frac{3}{4}$ of a foot long. She went to the store and found that the lumber she needs is sold only in lengths of 8 feet.

a) Figure out how many of her $\frac{3}{4}$ -foot boards she can cut from one 8-foot piece of wood. Include a diagram with your answer.

b) Write a division number sentence that matches the problem.

c) After she cuts her boards, how much lumber will be left over from the 8 foot piece? (Think about this as a remainder).



7
8
rter

6-44

6-44

8 is
frac

6-44

a)

she will use 10 boards that are $\frac{3}{4}$ foot long pieces.

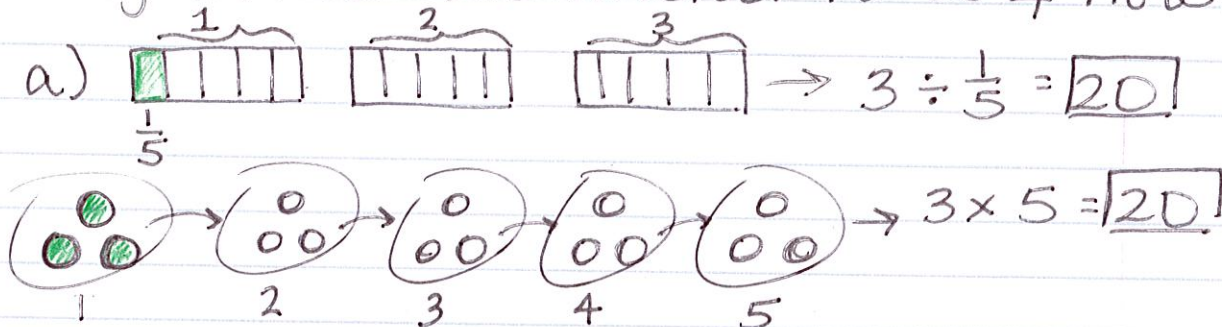
c) There will be 2-quarter foot long pieces which is 2 out of 3 quarters that she needs.

Q-43 $\frac{3}{4} \div \frac{1}{8} = 6$



↳ one-eighth notes are needed for a $\frac{3}{4}$ note.

Q-44 a) $3 \div \frac{1}{5} = 15$

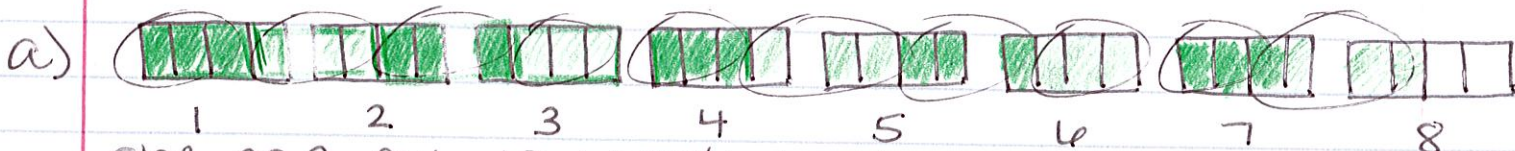


b) $\frac{3}{4} \times \frac{8}{1} = \frac{24}{4} = \frac{6}{1} = 6$

yes, I got the same answer when I multiplied by 8.

8 is written as the fraction $\frac{8}{1}$

Q-45 b) $8 \div \frac{3}{4} = 10 \text{ r } 2$ or $10\frac{2}{3}$



she can cut 10 boards that are 3-quarter foot long pieces.

c) There will be 2-quarter foot long pieces which is 2 out of 3 quarters that she needs.