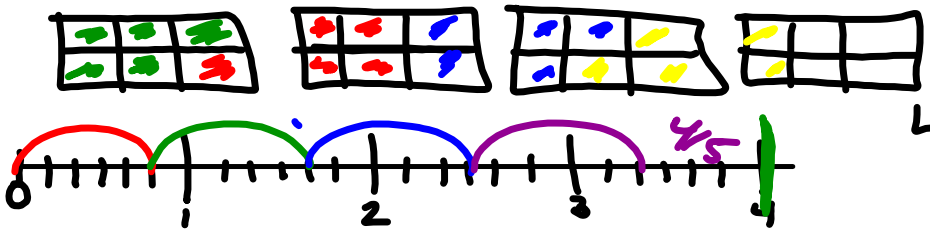
Warm Up Grade 8

Dec. 7, 2022

flip & mult

mult ↑ flip ↑

1) Use the box method or number lines to model $4 \div \frac{5}{6}$



$4\frac{4}{5}$

$\frac{4}{1} \times \frac{6}{5}$

$\frac{24}{5}$

$= 4\frac{4}{5}$

2) Reduce and multiply $\frac{15}{24} \times \frac{16}{27} = \frac{240}{648}$ ÷8 ÷8

$\frac{30}{81}$ ÷3 ÷3

$\frac{10}{27}$

$\frac{15}{24 \div 8} \times \frac{16 \div 8}{27}$

$\frac{15 \div 3}{3} \times \frac{2}{27 \div 3}$

$\frac{5}{3} \times \frac{2}{9}$

$\frac{10}{27}$

OR

10 MC

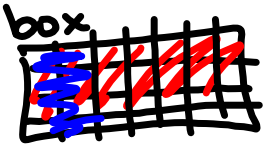
3 Modelling

a) $3 \times \frac{4}{5}$

3 groups of $\frac{4}{5}$ (move around

b) $\frac{3}{4} \times \frac{2}{7}$

draw 1 box



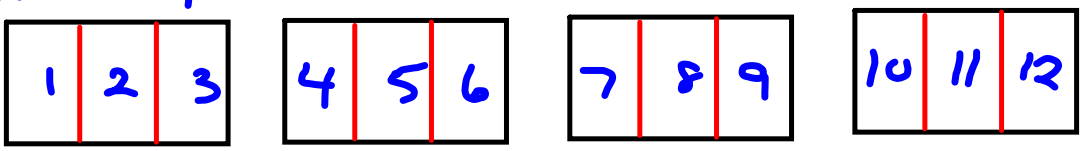
c) $4 \div \frac{2}{5}$

Homework pg. 132 # 3-10

Pg 132

3a) $4 \div \frac{1}{3} = 12$

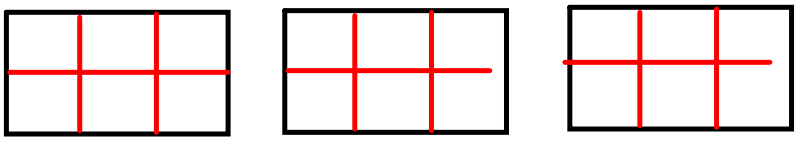
How many $\frac{1}{3}$'s are in 4



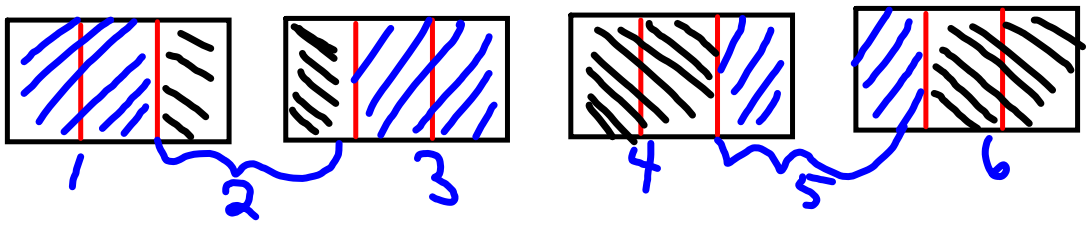
There are 3 → $\frac{1}{3}$'s in one whole

In 4 wholes → $4 \times 3 = 12$

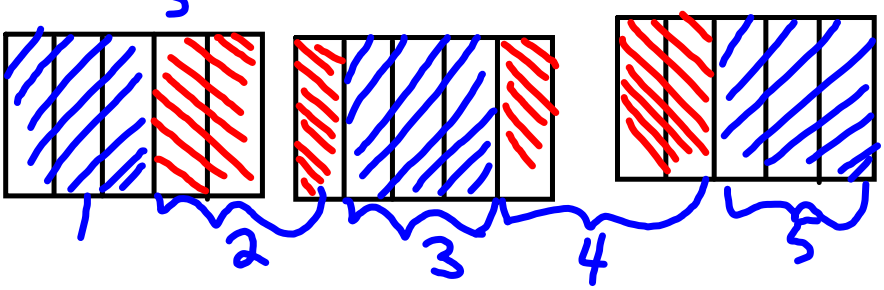
b) $3 \div \frac{1}{6} = 18$



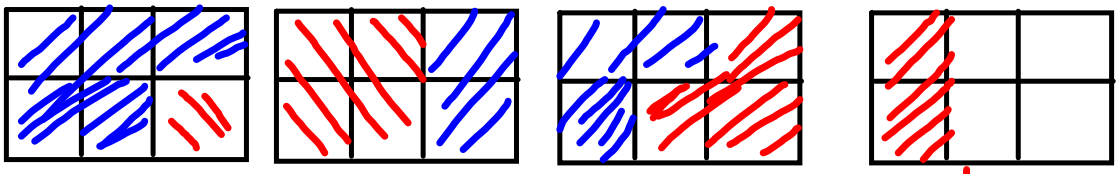
c) $4 \div \frac{2}{3} = 6$



d) $3 \div \frac{3}{5}$



4 $4 \div \frac{5}{6}$

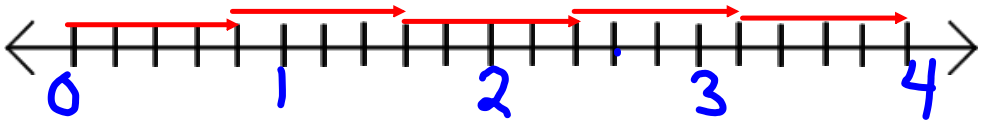


$4\frac{4}{5}$

or $\frac{24}{5}$

4 pieces left but I need 5 $\frac{4}{5}$

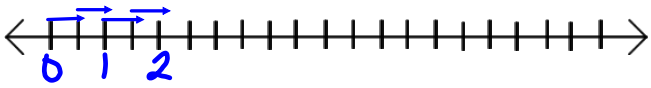
5. $4 \div \frac{4}{5}$



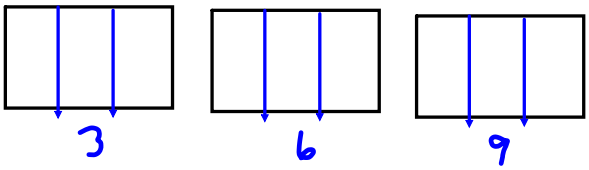
She can study 5 subjects.

6.

a) $2 \div \frac{1}{2} = 4$

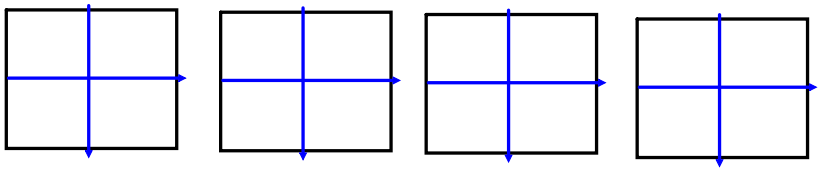


b) $3 \div \frac{1}{3}$



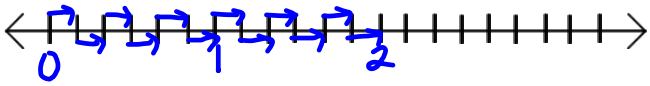
$= 9$

c) $4 \div \frac{1}{4}$



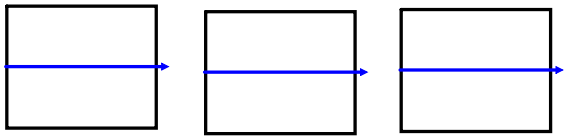
$= 16$

d) $2 \div \frac{1}{6}$



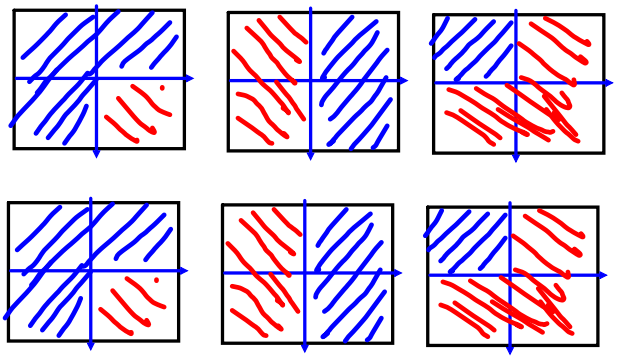
$= 12$

e) $3 \div \frac{1}{2}$



$= 6$

f) $6 \div \frac{3}{4}$



$= 8$

7. a) $3 \div \frac{1}{4} = 12$

$3 \div \frac{1}{2} = 6$

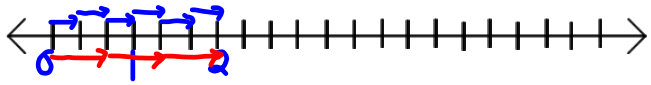
b) $2 \div \frac{1}{5} = 10$

c) $4 \div \frac{1}{6} = 24$

$4 \div \frac{1}{3} = 12$

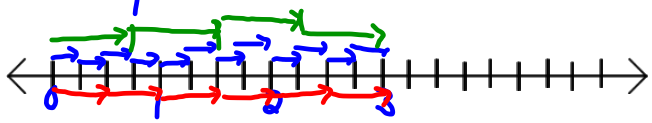
$4 \div \frac{1}{2} = 8$

8a) i) $2 \div \frac{1}{3} = 6$



ii) $2 \div \frac{2}{3} = 3$

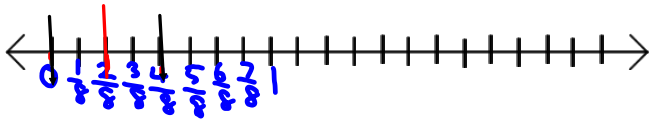
b) i) $3 \div \frac{1}{4} = 12$



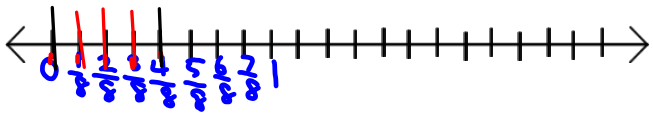
ii) $3 \div \frac{2}{4} = 6$

iii) $3 \div \frac{3}{4} = 4$

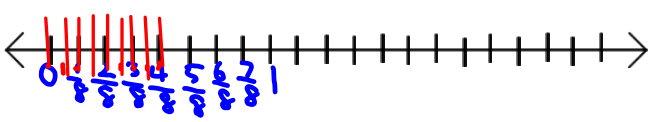
c) $\frac{4}{8} \div 2 = \frac{2}{8}$



ii) $\frac{4}{8} \div 4 = \frac{1}{8}$



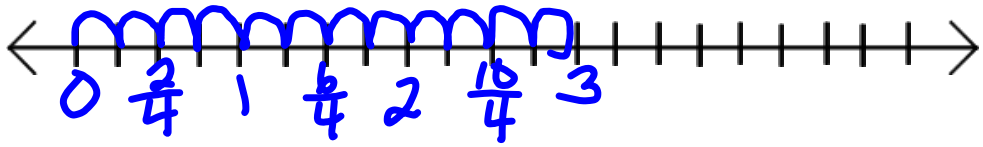
iii) $\frac{4}{8} \div 8 = \frac{1}{16}$



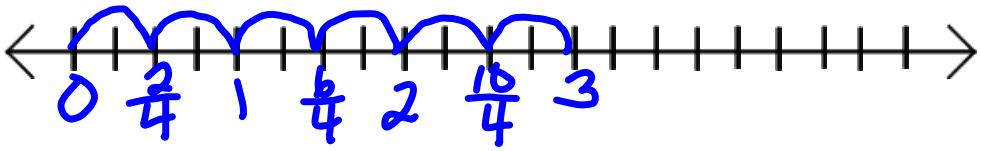
$\frac{95}{8} \div \frac{1}{16}$

$3 \div \frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$

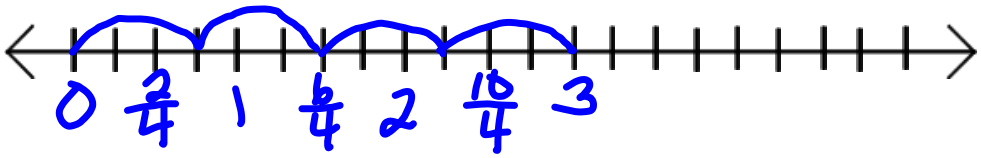
$= 12$



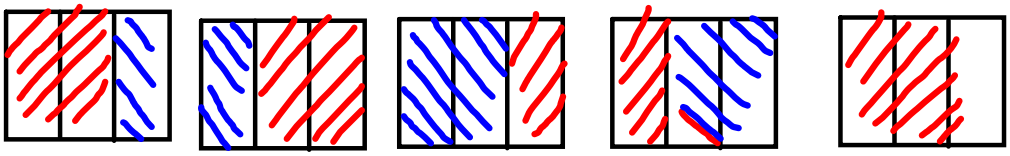
$3 \div \frac{2}{4} = 6$

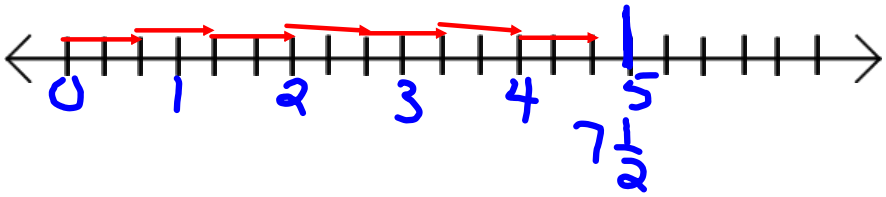


$3 \div \frac{3}{4}$



9 a) $5 \div \frac{2}{3} =$

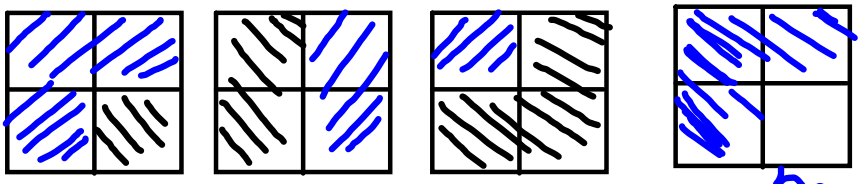




$= 7\frac{1}{2}$

b)

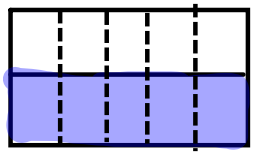
$4 \div \frac{3}{4}$



$5\frac{1}{3}$

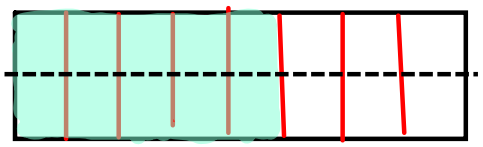
have 1 piece
need 3.

c) $\frac{1}{2} \div 5$



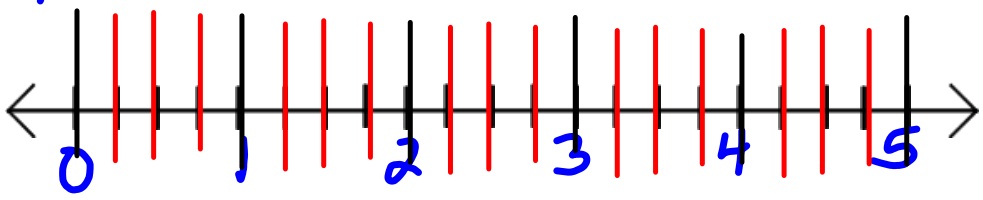
$= \frac{1}{10}$

d) $\frac{5}{8} \div 2$



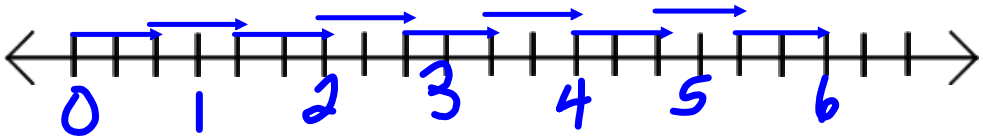
$= \frac{5}{16}$

10 a)



$5 \div \frac{1}{4} = 20$

b) $6 \div \frac{2}{3}$

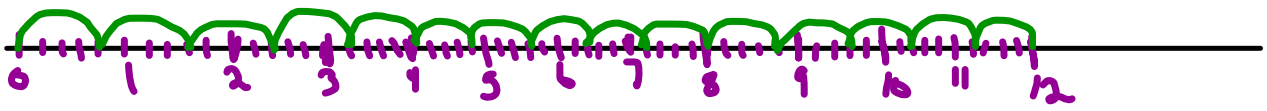


$= 9$

c) $12 \div \frac{4}{5}$

15 days

15 full kegs



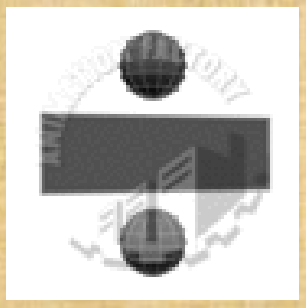
http://www.youtube.com/watch?v=80WArGwAjt8&feature=related why to flip and multiply?

http://www.youtube.com/watch?v=05rL51fIamk&feature=channel fraction rap

http://www.youtube.com/watch?v=OGUaN-F80NA&NR=1

http://www.youtube.com/watch?v=7GaeC4lPaSo

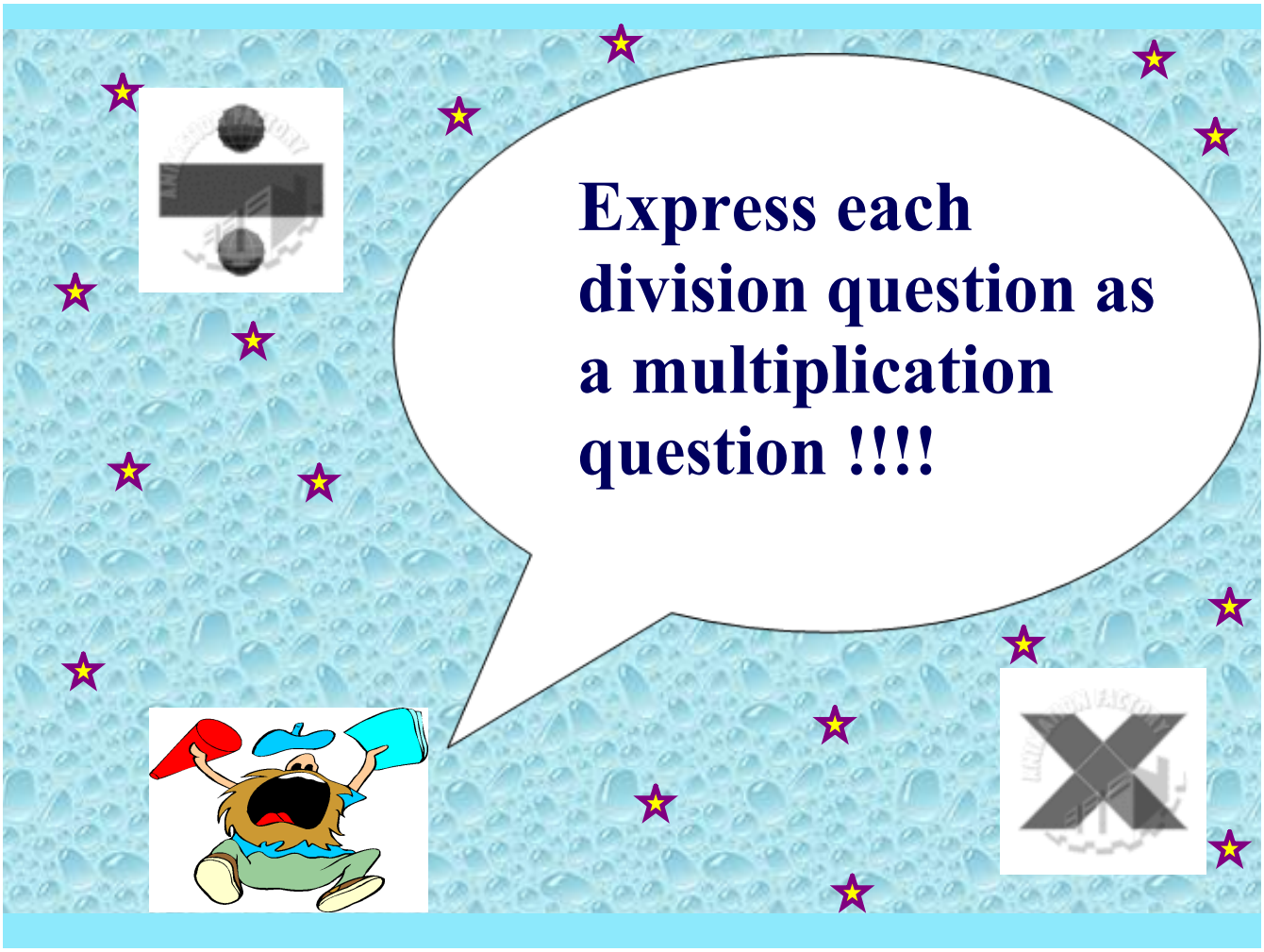
Dividing Fractions

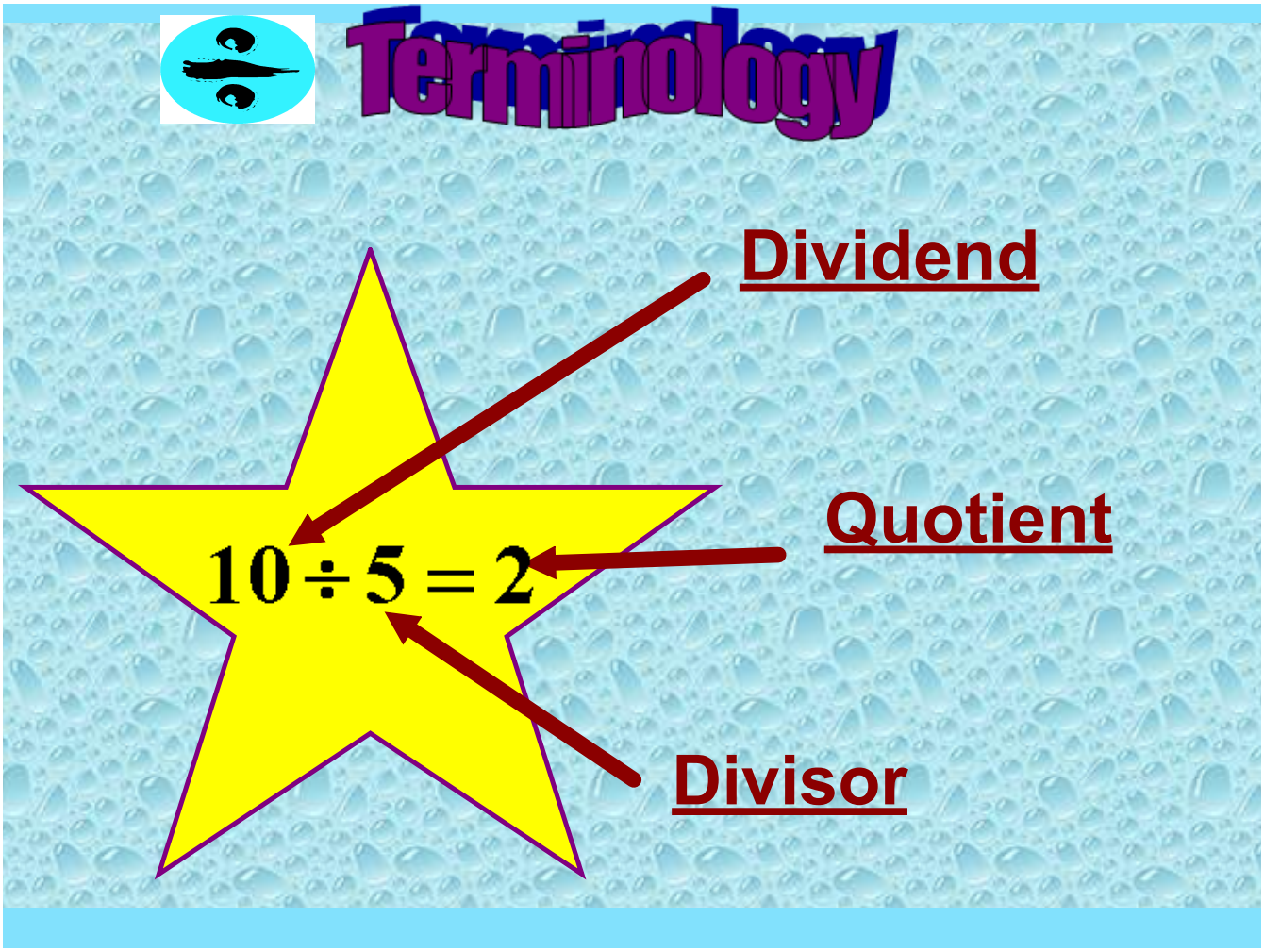


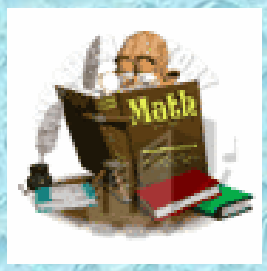
Reciprocal

- Every non-zero fraction has a reciprocal.
- Fractions with a denominator of "0" are undefined. $\left(\frac{6}{0}\right)$
- To find the reciprocal of a fraction, you simply flip the fraction !!

$\frac{4}{5}$ $\frac{5}{4}$


Express each division question as a multiplication question !!!!


Terminology
Dividend
Quotient
Divisor
10 ÷ 5 = 2



Express division as

multipication by multiplying

the dividend by the reciprocal

of the divisor !!

$$\frac{4}{5} \div \frac{1}{3} =$$

$$\frac{4}{5} \times \frac{3}{1} = \frac{12}{5} = 2\frac{2}{5}$$

So what have you discovered about dividing fractions?
Is there a way to divide fractions without modeling?

Rule for Dividing Fractions

To divide a fraction, the number before the division sign stays the same, the division sign changes to multiplication and the number after the division sign changes to its reciprocal, then multiply the fractions. Or in other words, invert and multiply.

Reciprocal is when you invert the fraction, the numerator moves to the denominator and the denominator moves up to the numerator.

examples $\frac{5}{4}, \frac{4}{5}$ $\frac{10}{7}, \frac{7}{10}$ $\frac{1}{8}, \frac{8}{1}$ $\frac{6}{11}, \frac{11}{6}$

Examples:

(a) $\frac{3}{5} \div \frac{4}{7}$

$= \frac{3}{5} \times \frac{7}{4}$

$= \frac{21}{20}$

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

(b) $\frac{9}{10} \div \frac{8}{15}$

Always Reduce

$= \frac{9}{10} \times \frac{15}{8}$

$= \frac{135}{80}$

$1\frac{55}{80}$ ÷5 ÷5

$1\frac{11}{16}$

Rule for Dividing Fractions is:

Flip second fraction and Multiply

a) $\frac{7}{8} \div \frac{1}{3}$

$\frac{7}{8} \times \frac{3}{1}$

$\frac{21}{8}$

$= 2\frac{5}{8}$

b) $\frac{4}{5} \div \frac{7}{8}$

$\frac{4}{5} \times \frac{8}{7}$

$\frac{32}{35}$

c) $\frac{1}{8} \div \frac{6}{5}$

$\frac{1}{8} \times \frac{5}{6}$

$\frac{5}{48}$

Class / Homework

~~Page 138 - Model #10(a, b, c)~~

Page 139 flip and multiply

#8, #9, ~~#10~~, #11, #12, #14, #15(a,b), #16

a) $\frac{11}{12} \div \frac{1}{4}$

b) $\frac{11}{12} \div \frac{1}{3}$