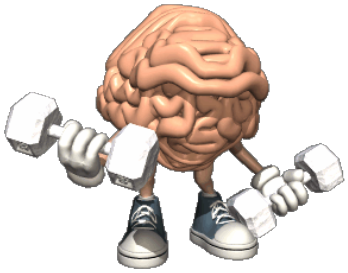
Curriculum Outcome

N1: Demonstrate an understanding of rational numbers by: comparing and ordering rational numbers; solving problems that involve arithmetic operations on rational numbers.

Student Friendly:
“Dividing fractions and decimals "

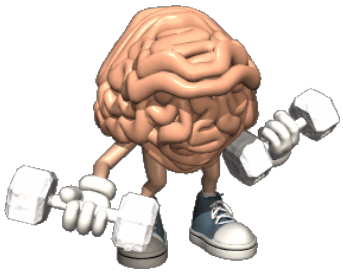


Warm-Up

Evaluate the following expressions:

3) $\left(-\frac{22}{21}\right)\left(\frac{-7}{18}\right)$

4) $\left(-2\frac{1}{4}\right)\left(-3\frac{1}{3}\right)$



Warm-Up

Evaluate the following expressions:

3) $\left(-\frac{22}{21}\right)\left(\frac{-7}{18}\right)$

$= \left(\frac{-11}{3}\right)\left(\frac{-1}{9}\right)$

$= \frac{11}{27}$

4) $\left(-2\frac{1}{4}\right)\left(-3\frac{1}{3}\right)$

$\left(\frac{-3}{4}\right)\left(\frac{-10}{3}\right)$

$\left(\frac{-3}{2}\right)\left(\frac{-5}{1}\right)$

$= \frac{15}{2}$

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

Dividing Rational Numbers

Remember FRACTIONS are just numbers!

THUS

The properties are still the same.

$$(+) \div (+) = (+)$$

* When two rational numbers have the **same sign**, their quotient is **positive**.

$$(-) \div (-) = (+)$$

$$(+) \div (-) = (-)$$

* When two rational numbers have the **different signs**, their quotient is **negative**.

$$(-) \div (+) = (-)$$

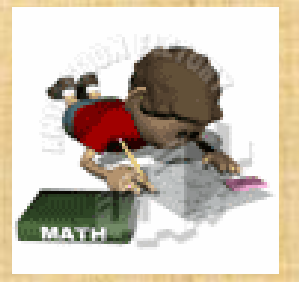
Determine the sign of each quotient

a) $\left(\frac{-3}{4}\right) \div \left(\frac{-7}{8}\right)$ +

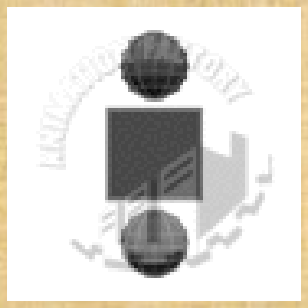
b) $\left(\frac{-2}{5}\right) \div \left(\frac{6}{7}\right)$ (−)

c) $7.8 \div 3.6$ (+)

Section: 3.5



Dividing Fractions

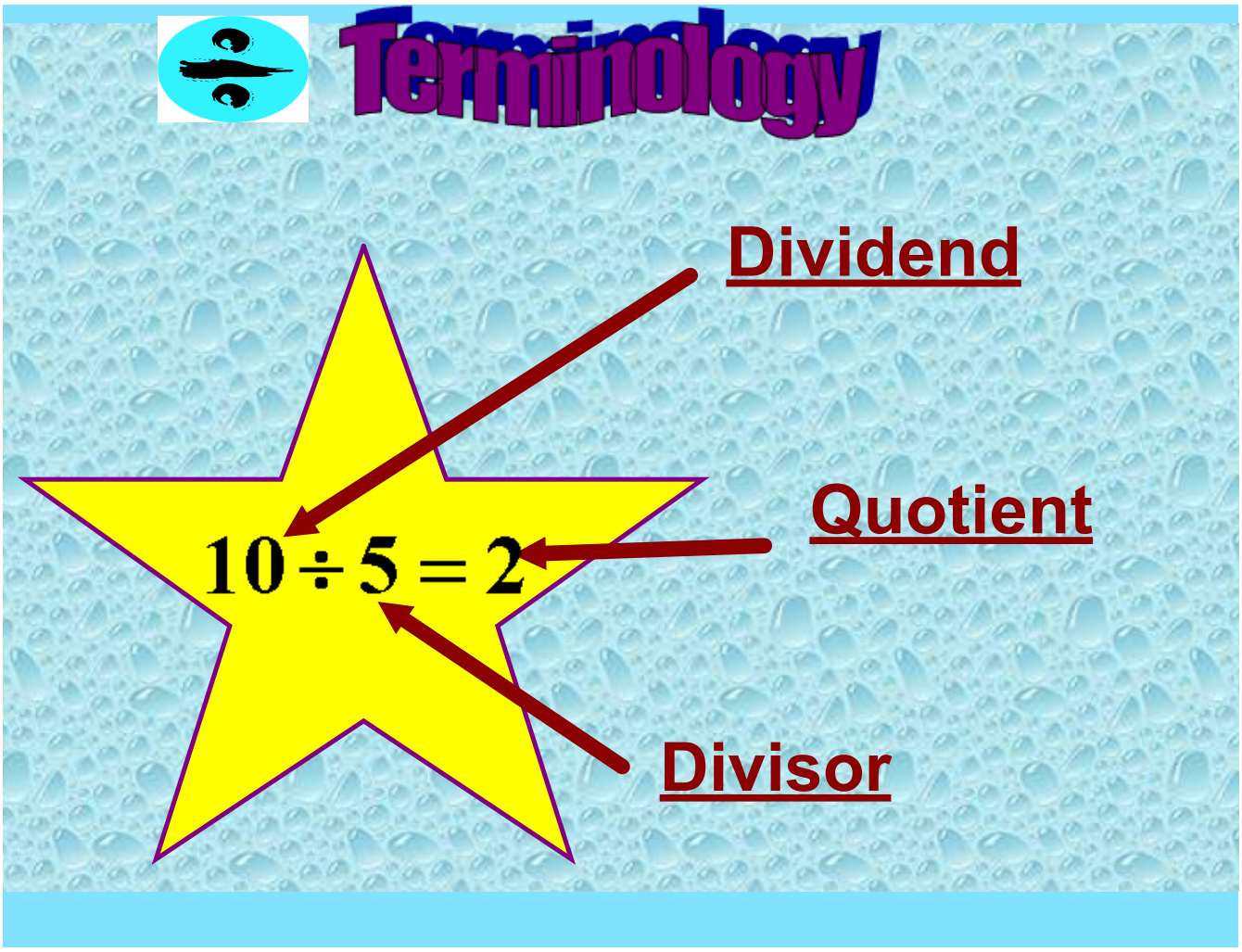


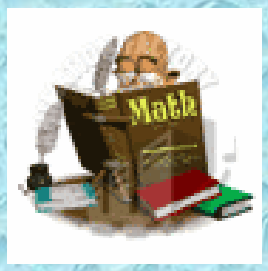
Reciprocal

- 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



Dividing Fractions

Multiply the dividend by the reciprocal of the divisor !!

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

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

http://www.youtube.com/watch?v=80WArGwAjt8&feature=related

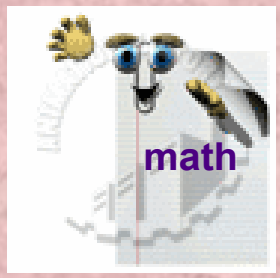
http://www.youtube.com/watch?v=80WArGwAjt8&feature=related why to flip and multiply?

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

Try These !!



#1

$$\frac{4}{5} \div \frac{7}{8} =$$

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

$= \frac{32}{35}$

#2

$$\frac{1}{8} \div \frac{-6}{5}$$

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

$= \frac{-5}{48}$

#3

$$2\frac{1}{4} \div \frac{5}{1} =$$

$\frac{9}{4} \times \frac{1}{5}$

$\frac{9}{20}$

Class / Homework

Practice Problems

Page 134-136

3ace
4
8
9 a, c, e

11a
12bdf
17 a, c, d
18 a

Fraction Rap

Write out the questions and then show all work to get to the answer.

Grade 9

Warm Up

Find the Quotient

Show work

$\frac{3}{5} \div \frac{-7}{15}$

$\frac{-4}{27} \div \frac{-2}{3}$

3) $10.4 \div -5.2$

Determine the missing number in the division statement.

Missing Dividend

Copy down

$(x) \div 4 = 3$

Think:
Division is the inverse of **Multiplicatio**

To Solve for Missing Dividend
take Divisor X Quotient

$(x) = 3 \times 4$

$(x) = 12$

Check work

$12 \div 4 = 3$ ✓

(x) ÷ 4 = 3

To Solve for Missing Dividend
take Divisor X Quotient

Now with Rational #s

You Try

A) $(x) \div \left(\frac{5}{11}\right) = \frac{3}{7}$

$(x) = \frac{3}{7} \times \frac{5}{11}$

$(x) = \frac{15}{77}$

Check Work

$\frac{15}{77} \div \frac{5}{11}$

$\frac{3\cancel{15}}{7\cancel{77}} \times \frac{\cancel{11}^{1}}{\cancel{5}}$

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

$= \frac{3}{7}$

B) $x \div 12.6 = 4.2$

$x = 4.2 \times 12.6$

$x = 52.92$

Check Work

$52.92 \div 12.6 = 4.2$

Determine the missing number in the division statement.

Copy Down

Missing Divisor

$15 \div (\_\_) = -5$

Think:
Quotient is negative thus the BLANK must be what sign? _____

To solve for missing Divisor
take Dividend ÷ Quotient

$15 \div (\_\_) = -5$

$15 \div (-5) = -3$

Check Work

$15 \div (-3) = -5$ ✓

$15 \div (x) = 5$ $x = \frac{15}{3}$

You Try

1) $-2.5 \div \underline{x} = 5$

$x = \frac{-2.5}{5}$

$x = -0.5$

2) $\left(\frac{-4}{7}\right) \div (x) = \frac{32}{35}$

$x = \frac{-4}{7} \div \frac{32}{35}$

$x = \frac{-4}{7} \times \frac{35}{32}$

$x = \left(-\frac{1}{1}\right)\left(\frac{5}{8}\right)$

Check Work

$x = -\frac{5}{8}$