Math Makes Sense 9

Self Paced Study Guide   Exam Target Date: December 17

NB: You must attempt to do the questions in this whole chapter without using your algebraic, scientific or fraction calculator. Everyday while working in class you will be required to "choose the blue".

Chapter: 3 Rational Numbers

NB: it would be very useful to have and use s package of grid lined paper when working on this chapter.

Key Words: Either now or as you work through this chapter, define, illustrate or give an example of each word or idea.

Rational Number, Irrational Number:

Topic: 3.1 What is a Rational Number?

Read and study pages: 95 – 100-Give special attention to: Pg. 95 at the bottom.
Note the three different ways of representing the negative fraction.

NB: When working through the assigned exercises and activities, you should check ALL your answers using the answer guide at the back of the book. Do **NOT** proceed to the next set of questions until you have corrected the section you are working on. I.e.: Do not wait to correct your answers till you have finished the whole page of assigned questions. Go back and **re-read** the notes and examples till you understand the concept when you are stuck or not getting something.

Discuss the ideas: Do #'s 1 to 4

Basic Assignment: PRACTICE Qs, pg. 101. Do #'s 5 to 11, 12a, b, d, e, g, h,

Find a partner: divide up the questions from 14 to 27 between you. Work together to help each other answer the questions.

Challenge Assignment: #s 26, 27

IMPORTANT: realize that when working with the following 4 concepts, you are advised to predict the sign of the answer before you start processing the question – or a certain part of a question. Heed this advice! Its good advice!

Topic 3.2   Adding Rational Numbers

Read and study pages: 106-110-Give special attention to: Review adding positive and negative numbers.

Adding (combining) similar signs:

Adding (combining) two positives makes a positive

Adding (combining) two negatives just makes more negative.

Adding (combining) different signs: Just think "bigger wins" . So, if you are adding a neg 12 with a pos 8, the negative team will win because they have more players – and they will win by 4 points, because they have 4 more players than the positives do. Thus, -12 + 8 = -4 (the sign for the answer will be the one on the largest quantity – in this case … the 12).

Basic Assignment: PRACTICE Qs: 1 to 10, all parts; #11-do half.

12 to 19 - choose 4 questions.

Challenge Assignment: Any of the questions that you haven't been assigned.

Topic 3.3   Subtracting Rational Numbers

Read and study pages: 114-118

Give special attention to: Review subtracting positive and negative numbers.

> **Subtracting Integers requires a "twist" in your thinking – think "flip-flop". Start to think of it in a sort of "reverse psychology" way… start to think of it as an addition (flip). What? You say! But subtraction is the very opposite of addition. So then, just flop the sign of the number being subtracted, and you will achieve the right effect! Just think of subtracting as a process of ADDING the INVERSE and you will succeed. Now realize that you have sort of "CHEATED" – you are changing the subtractions to additions, but you are just adding the inverse. And now you can go back to the "combining" strategy and logic used in the previous topic, 3.2, above.**

Basic Assignment: PRACTICE Qs: 1 to 9, Then 11 to 14. For Q#s 15 pick two, for 16 choose two, and for 17 do one.

Mid Unit Review, page **121: do ALL questions.**

Topic 3.4   Multiplying Rational Numbers

Read and study pages: 123-127

Give special attention to: Review multiplying positive and negative numbers.

> **Remember: multiplying two numbers with similar signs gives a POSITIVE answer.**
>
> **And the reverse: multiplying two numbers with different signs gives a NEGATIVE answer.**

Basic Assignment: PRACTICE Qs pages 127-129. Do #s 3 to 7, and 15- all parts. Then choose half of the questions from 8 to14.

Challenge Assignment: Any of the questions that you haven't been assigned, including #s 16-18.

Topic 3.5   Dividing Rational Numbers

Read and study pages: 130-134-Give special attention to: Review dividing positive and negative numbers.

> **Remember: dividing two numbers with similar signs gives a POSITIVE answer.**
>
> **And the reverse: dividing two numbers with different signs gives a NEGATIVE answer.**

Basic Assignment: PRACTICE Qs pages 134-136. Do #s 3 to 5, and 12- all parts. Then choose half of the questions from 6 to18.

Challenge Assignment: Any of the questions that you haven't been assigned, including #s 19-21.

Topic 3.6   Order of Operations with Rational Numbers

Read and study pages: 137-139 -Give special attention to: BEDMAS – You KNOW this already, right!

Basic Assignment: PRACTICE Qs pages 140-142. Do ALL parts of Q#s 3 to7, and 12. Then do #s 10, 11, and 13. Finally, complete half of the remaining questions.

Challenge Assignment: Any of the questions that you haven't been assigned, including #s 16-18.

Study Guide, page 143 – Read this over as a review. Note the BEDMAS paragraph at the end.

Chapter Review, page**s 144-145. Do ALL questions.**

Take the Practice Test: page 146. What % did you get right?