After having read the chapter *pencil in hand* and done this HOMEWORK:

i. What was the most important *idea* in the chapter? Be very *specific*.

ii. What question(s), if any, would you not be able to do on the EXAM?

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Hw 3-1. Given the real-world situation in which Mike has \(\$\) and Mina has \(\$\), circle ALL of the following comparison sentences that can be truly written on paper about it?

- Mike > Mina
- Mike ≥ Mina
- Mike = Mina
- Mike < Mina
- Mike ≤ Mina
- Mike ≠ Mina

a. Mike > Mina, Mike ≥ Mina
b. Mike > Mina, Mike ≥ Mina, Mike ≠ Mina
c. Mike ≠ Mina
d. Cannot be compared
e. None of the previous choices

Hw 3-2. Circle ALL the comparison sentences that are false.

- 4 Dollars > 4 Dollars
- 4 Dollars ≥ 4 Dollars
- 4 Dollars = 4 Dollars
- 4 Dollars ≤ 4 Dollars
- 4 Dollars ≠ 4 Dollars

a. 4 Dollars = 4 Dollars
b. 4 Dollars ≤ 4 Dollars, 4 Dollars ≥ 4 Dollars
c. 4 Dollars ≤ 4 Dollars, 4 Dollars ≥ 4 Dollars
d. 4 Dollars < 4 Dollars, 4 Dollars > 4 Dollars, 4 Dollars ≠ 4 Dollars
e. None of the previous choices

Hw 3-3. All we know about Mary’s collection and Larry’s collection is that Mary < Larry

circle ALL of the following comparison sentences that are true.

- Larry > Mary
- Larry ≥ Mary
- Larry = Mary
- Larry < Mary
- Larry ≤ Mary
- Larry ≠ Mary

a. Larry ≥ Mary, Larry > Mary
b. Larry ≥ Mary
c. Larry > Mary
d. Larry > Mary, Larry ≥ Mary, Larry ≠ Mary
e. None of the previous choices
Hw 3-4. All we know about Cindy’s collection and Teddy’s collection is that

\[ \text{Cindy} = \text{Teddy} \]

Circle ALL of the following comparison sentences that are TRUE.

- Teddy \( \geq \) Cindy
- Teddy \( \leq \) Cindy
- Teddy \( \geq \) Cindy, Teddy \( \leq \) Cindy, Teddy = Cindy
- Teddy \( \geq \) Cindy, Teddy \( \leq \) Cindy
- None of the previous choices

Hw 3-5. All we know about Andy’s, Billy’s and Cindy’s collection is that

\[ \text{Andy} \leq \text{Billy} \]

and also that

\[ \text{Billy} \leq \text{Cindy} \]

Circle ALL of the following comparison sentences that are TRUE.

- Andy \( > \) Cindy
- Andy \( \geq \) Cindy
- Andy \( = \) Cindy
- Andy \( < \) Cindy
- Andy \( \leq \) Cindy
- Andy \( \neq \) Cindy

a. Andy \( > \) Cindy  b. Andy \( < \) Cindy  c. Andy \( \geq \) Cindy  d. Andy \( \leq \) Cindy  e. None of the previous choices

Hw 3-6. All we know about Ken’s collection and Dan’s collection is that

\[ \text{Ken} \geq \text{Dan} \]

and also that

\[ \text{Ken} \neq \text{Dan} \]

Circle ALL of the following comparison sentences that are TRUE.

- Ken \( > \) Dan
- Ken \( \geq \) Dan
- Ken = Dan
- Ken \( < \) Dan
- Ken \( \leq \) Dan
- Ken \( \neq \) Dan

a. Ken \( > \) Dan  b. Ken \( < \) Dan  c. Ken \( \geq \) Dan  d. Ken \( \leq \) Dan  e. None of the previous choices
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e. None of the previous choices

**Hw 3-7.** Given the signed numerators \(-7\) and \(+3\) *in that order*, what *weak* comparison sentence is TRUE?

- M \( -7 < +3 \)
- N \( -7 \leq +3 \)
- O \( -7 \geq +3 \)
- P \( +3 \geq -7 \)

a. M and N   b. M   c. P   d. Cannot compare because the signs are different

e. None of the previous choices

**Hw 3-8.** Given the signed numerators \(+3\) and \(-7\) *in that order*, what *strict* comparison sentence is TRUE?

- a. \(+3 < -7\)   b. \(+3 \geq -7\)   c. \(+3 \leq -7\)
- d. Cannot compare because they have different signs.

e. None of the previous choices

**Hw 3-9.** Given the signed numerators \(-7\) and \(+3\) *in that order*, what *size* comparison sentence(s) is(are) TRUE?

- a. \(-7\) is more in size than \(+3\)   b. \(-7\) is less in size than \(+3\)
- c. \(-7\) is the same in size as \(+3\)   d. Cannot compare because they have different signs.

e. None of the previous choices

**Hw 3-10.** Given the data set

0 Dollars, 1 Dollars, 2 Dollars, 3 Dollars

and the formula in Dollars

\[ x < 2 \]

What are the solutions in Dollars?

a. 0, 1, 2   b. 2, 3   c. 0, 1, 2, 3   d. 1

e. None of the previous choices
Hw 3-11. Given the data set

\[-3 \text{ Dollars}, -2 \text{ Dollars}, -1 \text{ Dollars}, 0 \text{ Dollars}, +1 \text{ Dollars}, +2 \text{ Dollars}, +3 \text{ Dollars}\]

and the formula in Dollars

\[x \leq +2\]

What are the solutions in Dollars?

a. \(-3, -2, -1, 0, +1, +2\)  b. \(+2, +3\)  c. \(-3, -2, -1, 0, +1\)  d. \(+3\)

e. None of the previous choices

Hw 3-12. Given the following data set:

\[-3 \text{ Dollars}, -2 \text{ Dollars}, -1 \text{ Dollars}, 0 \text{ Dollars}, +1 \text{ Dollars}, +2 \text{ Dollars}, +3 \text{ Dollars}\]

and the formula in Dollars

\[x \neq +2\]

What are the solutions in Dollars?

a. \(-3, -2, -1, 0, +1, +2\)  b. \(+2, +3\)  c. \(-3, -2, -1, 0, +1\)  d. \(+3\)

e. None of the previous choices

Hw 3-13. Given that the denominator is declared to be Meters and given that the data set is all signed decimal numerators and the formula is \(x < +37.42\), what is the graph of the solution subset?

a. ![Graph a](image)

b. ![Graph b](image)

c. ![Graph c](image)

d. ![Graph d](image)

e. None of the previous choices