**A picture containing clipart

Description automatically generated *vClinicals: Math Refresher Courses to***

***Enhance Nursing Education***

The **vClinicals** are valuable tools for nursing education in a variety of platforms. Here we provide a discussion of the **Math Refresher** Course and its value as a routine means to hone your students’ critical math skills. We have posted many resources for you on the NurseThink® web site ([www.nursethink.com](http://www.nursethink.com)), including ways to build clinical days, resources for grading and scoring **vClinicals**, the research we’ve assembled to provide an evidence base for virtual simulation, and MANY videos to support both students and faculty. Several videos are also available on YouTube.

***Why a Math Refresher Course for all Nursing Students:***

* Provides a practical application of math skills in real-life clinical scenarios.
* Research indicates that building math skills fosters the development of logic and rational thinking, thereby enhancing clinical judgment skills.
* **vClinicals** offer the ability to scaffold student skills—math skills are layered for complexity and time frames are reduced to ensure increasing skills. **Math Refresher** allows for assessment, support, and remediation as students build math skills.
* **vClinicals** shift the focus for students. Rather than memorizing formulas and drilling math skills, the **vClinicals** charge students to ask the questions “does the answer make sense?” and place the math in a real-world context.
* Repetition is a critical teaching strategy. **Math refresher** allows students to repeat skills with new values in each exercise to practice skills. It also allows for calibration—ensuring students learn “what they don’t know” and continue to build and add skills to their foundation.
* **Math Refresher** includes thousands of problems for students.
* Set up is easy for faculty and practice is easily accessed by students.
  + Math Refresher: Weekly Use to Hone Critical Math skills LINK
  + Math Refresher: Creating a course! LINK

***Math Refresher offers practice in:***

***•  Basic addition, subtraction, multiplication, division***

***•  Calculate additional dosage needed***

***•  Calculate total tablets dosage given***

***•  Calculate total tablets needed***

***•  Rounding to nearest tenth, hundredth***

***•  Tablets required: more or less?***

***•  Dosage calculations***

***•  Intake / Output***

***•  IV formulas***

**A dedicated Math Refresher Course:**

* *May be used early, midway, and late in nursing students’ programs.*
* *Students may also be assigned* ***Dosage Calculations*** *and* ***Med-Pass*** *as additional assignments.*
* *Relieves math testing/focus from other* ***vClinical*** *courses.*
* *Maintains use of* ***vClinicals****—repetition and increased practice/usage of this powerful tool.*
* *May be use instead of paper-and-pencil quizzes. May be a quiz at start of clinical courses or throughout the program.* ***vClinicals*** *are so much more valuable than multiple choice items where students have an advantage of doing the math and seeing if it is among the options—if not they can try again. This practice does not cultivate math skills or reflect reality!*
* *Ease in scoring and entering from an Excel spreadsheet.*
* *Weekly assignments, perhaps every Monday for the whole semester to foster math expertise.*

**For example:**

* ***High Level Students***
  + ***Math Refresher: 30 problems, 80% required score, all IV formulas (30 min)***
  + ***Dosage Calculation: 10 scenarios, 80% required score (30 min)***
* ***Mid-Level Students***
  + ***Math Refresher: 30 problems, 80% required score, dosage calculation, I & O (40 min)***
  + ***Dosage Calculation: 10 scenarios, 80% required score (40 min)***
* ***Entry-Level Students***
  + ***Math Refresher: 30 problems, 80% required score, (no IV formulas or I&O) (30 min)***
  + ***Dosage Calculation: 10 scenarios, 80% required score (40 min)***

Remember the value of repetition and students doing **vClinical** scenarios from a variety of perspectives, in a variety of classes, and with increasing complexity and context to provide valuable learning experiences for students.

We hope these ideas assist you in designing fun and valuable **vClinical** experiences using **Math Refresher**. If you need more ideas, see:

Bristol, T.J. & Sherrill, K.J. (2018). *NurseThink® for nurse educators success manual.* Waconia, MN: Nurse Tim, Inc. <https://nursetim.com/bookstore/faculty-success-bundle>

Herrman, J.W. (2020). *Creative teaching strategies for the nurse educator.* Philadelphia, PA: FA Davis. <https://nursetim.com/bookstore/creative-teaching-strategies>