



Objectives

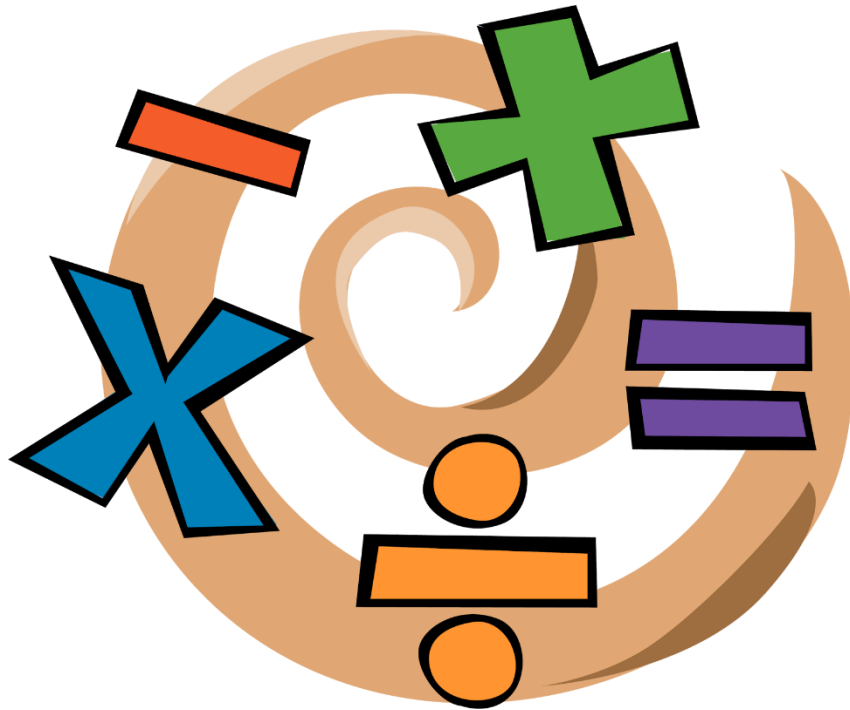
- Find tips for teaching basic math skills
- Discover ideas for integrating foundational math concepts into your CTE lessons
- Free resources!
- BONUS: Learn about the Realityworks Medical Math Training Kit

Why is Math So Important?

- At least 1.5 million people each year (IOM, 2006)
- Extra medical costs of at least \$3.5 BILLION per year
- I made an error!!!



What Do They Need to Know?



- Basics
 - Decimals
 - Fractions
 - Ratios
 - Percentages
 - Measurement
 - Conversions

How Do We Teach? Context



How Do We Teach? **Bite Sized Chunks**



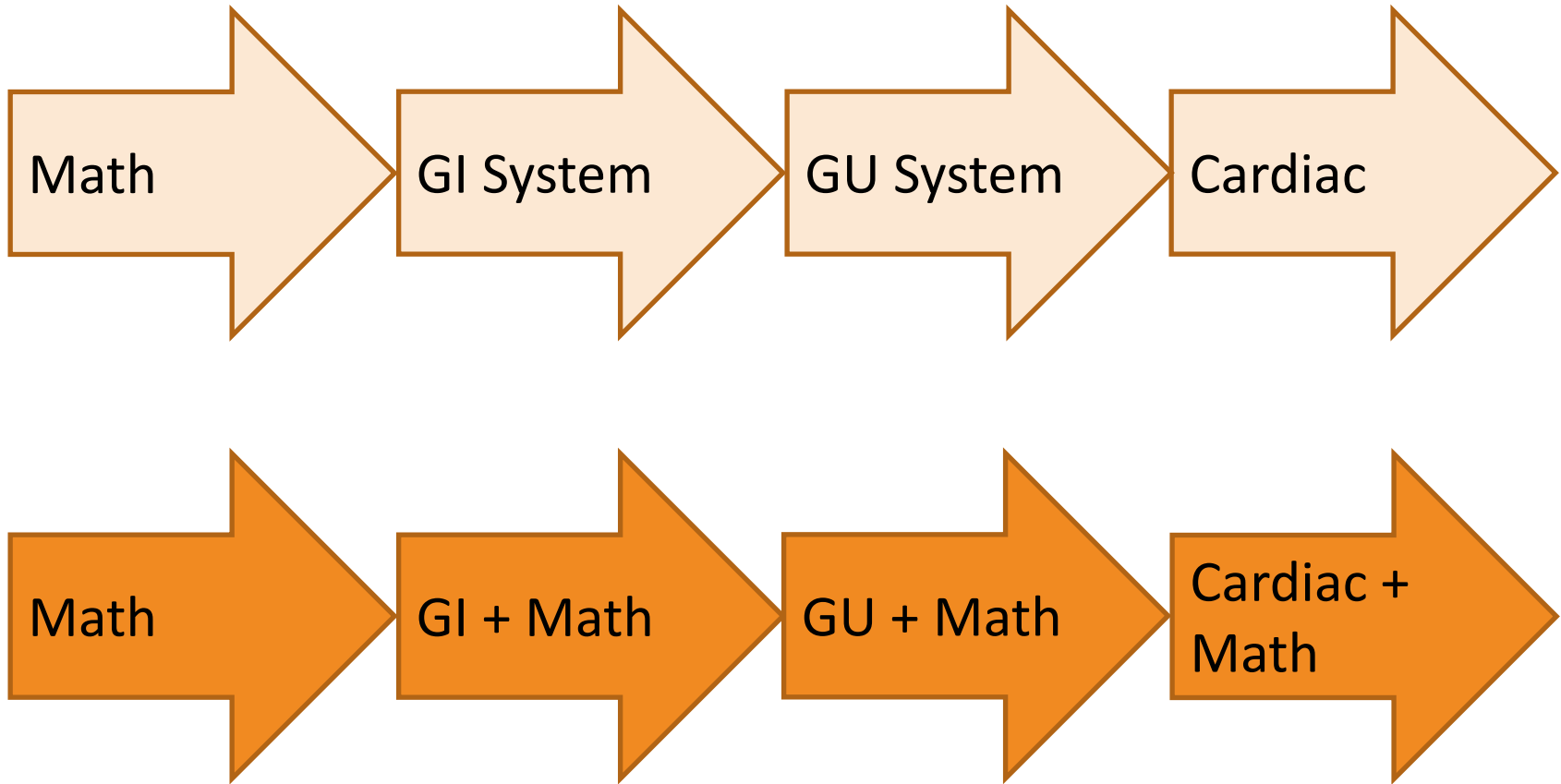
How Do We Teach?



kpkpkp.com

4 Innovative Ways to Teach with Video Games – Leila Meyer

How Do We Teach? **Integration**

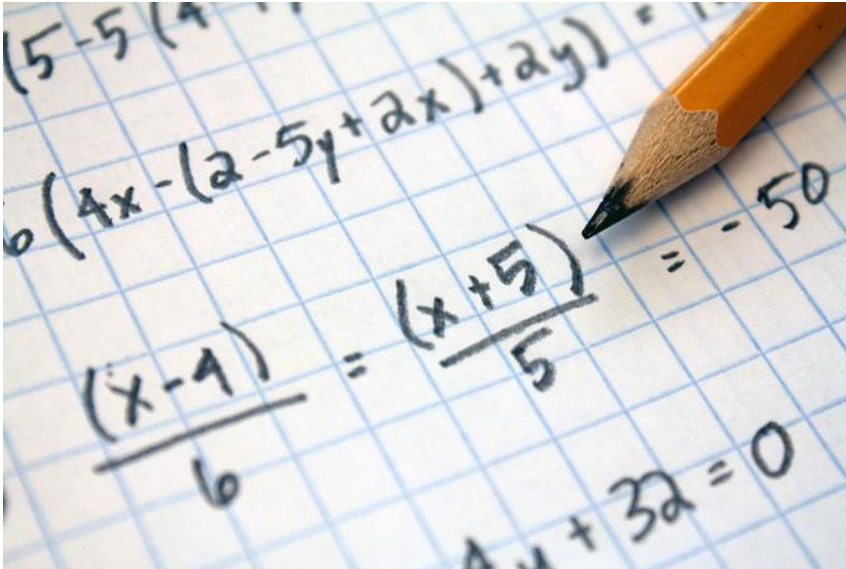


How Do We Teach? Smarter

The screenshot shows the Khan Academy interface for the Pre-algebra course. At the top, a blue banner reads "Log in or Sign up to save your future progress! All content is 100% free." Below this is a navigation bar with "Courses", a search bar, the Khan Academy logo, and links for "Donate", "Login", and "Sign up". The main header area is dark blue with "Math" and "Pre-algebra" in white. On the left, a sidebar lists course topics with progress bars: "Factors and multiples", "Patterns", "Ratios and rates", "Percentages", "Exponents intro and order of operations", "Variables & expressions", "Equations & inequalities introduction", "Percent & rational number word problems", and "Course challenge". The main content area displays four topic cards: "Factors and multiples" (0/800 Mastery points), "Patterns" (0/900 Mastery points), "Ratios and rates" (0/1700 Mastery points), and "Percentages" (0/700 Mastery points). Each card lists sub-topics and includes a "Get started" button.

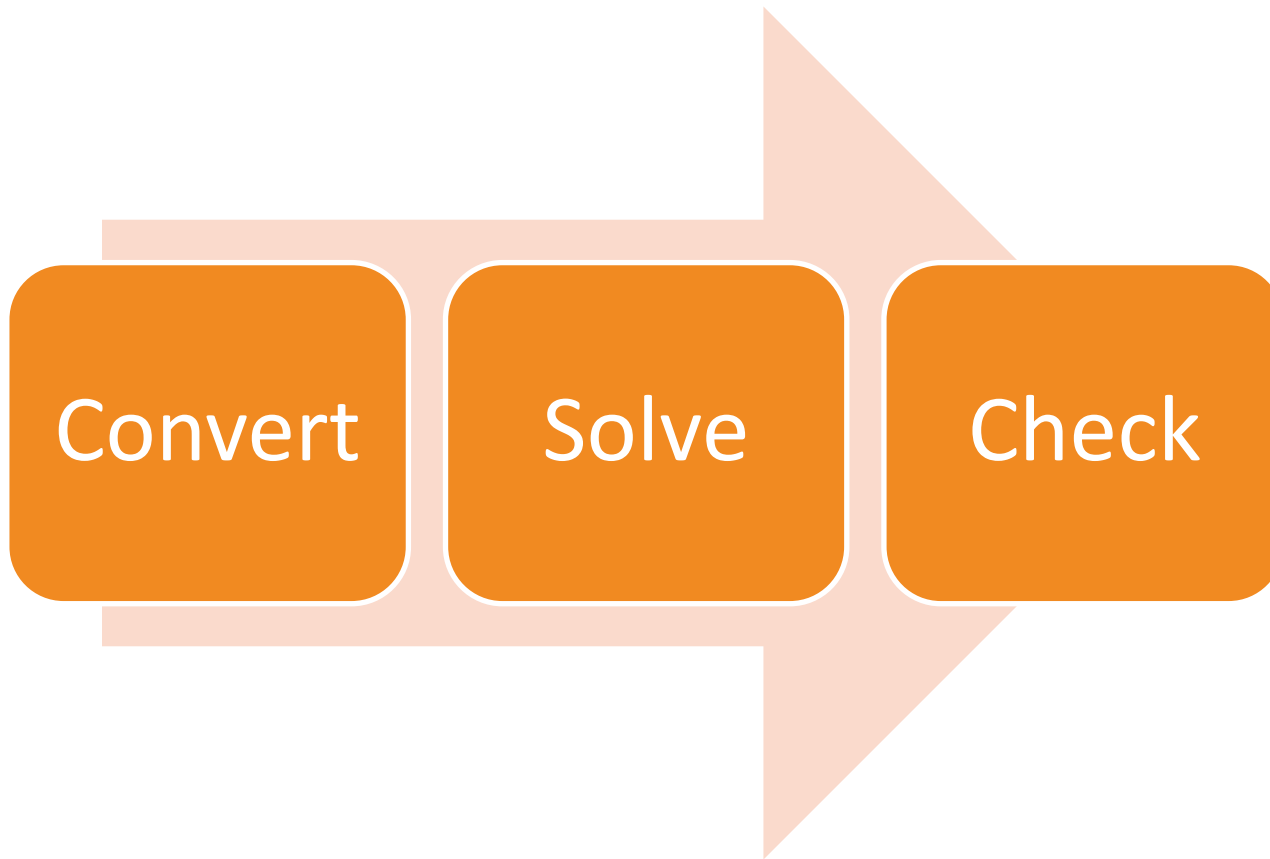
www.khanacademy.org

What Do They Need to Know, Part 2

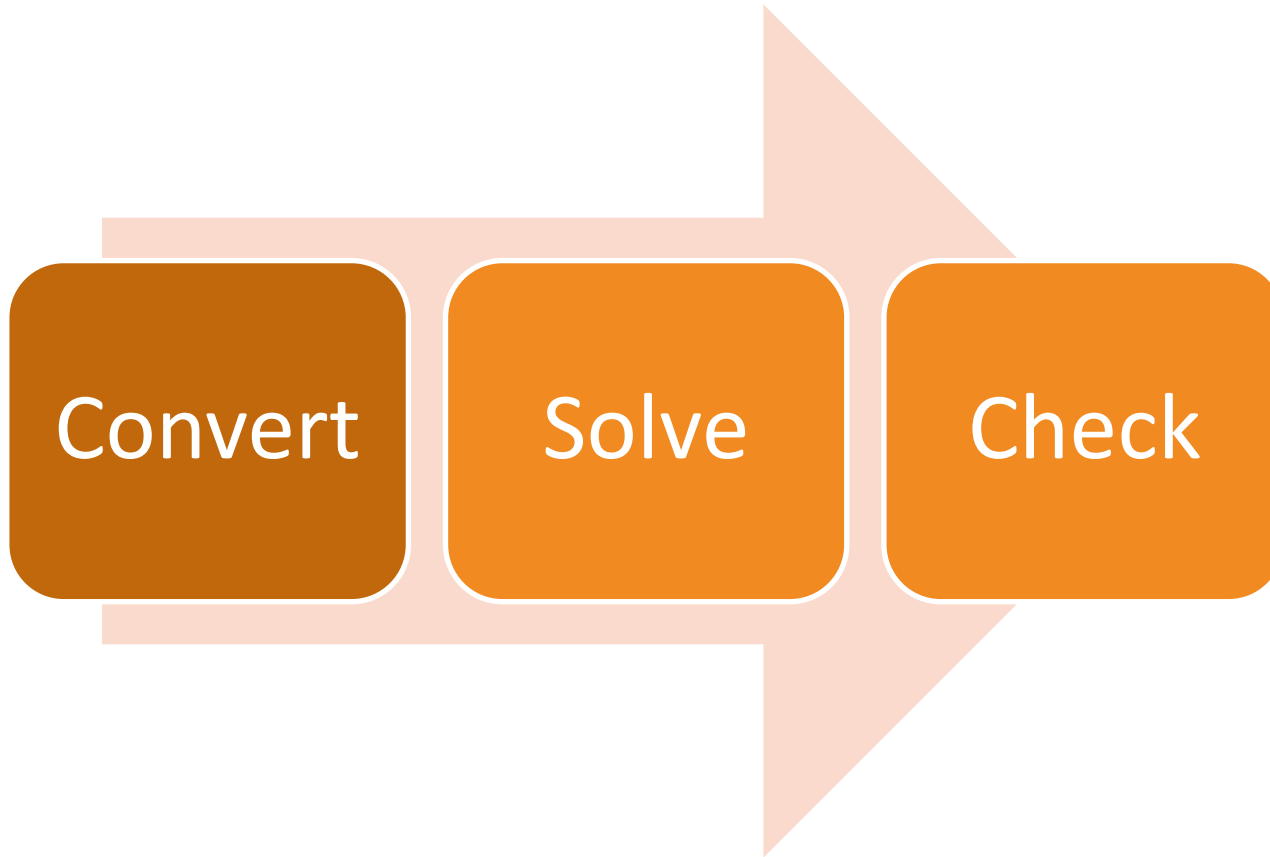


- Dosage calculations
 - Oral
 - Injections
 - IV push
 - IM injections
 - SQ injections
 - Continuous IV infusions
 - IV pump
 - Drip rates

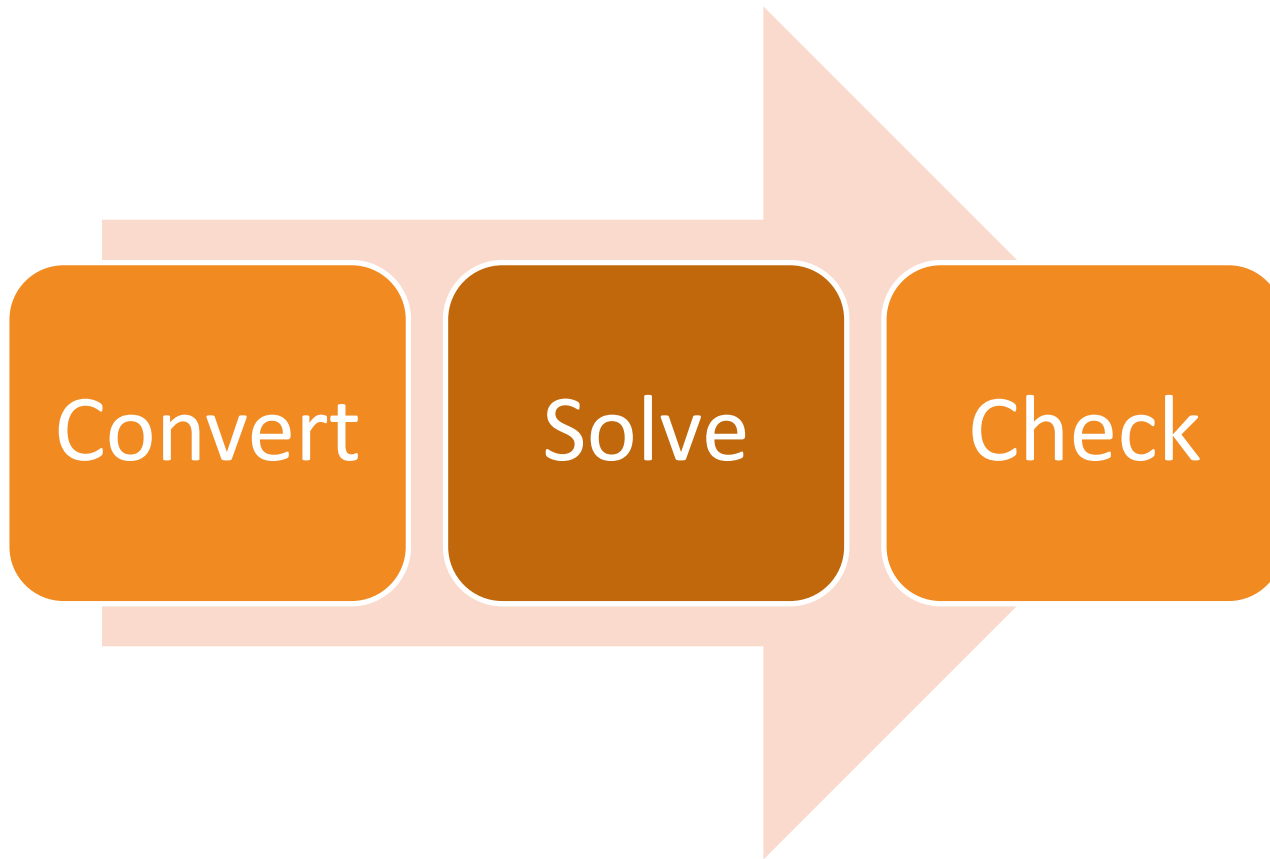
The CSC Method



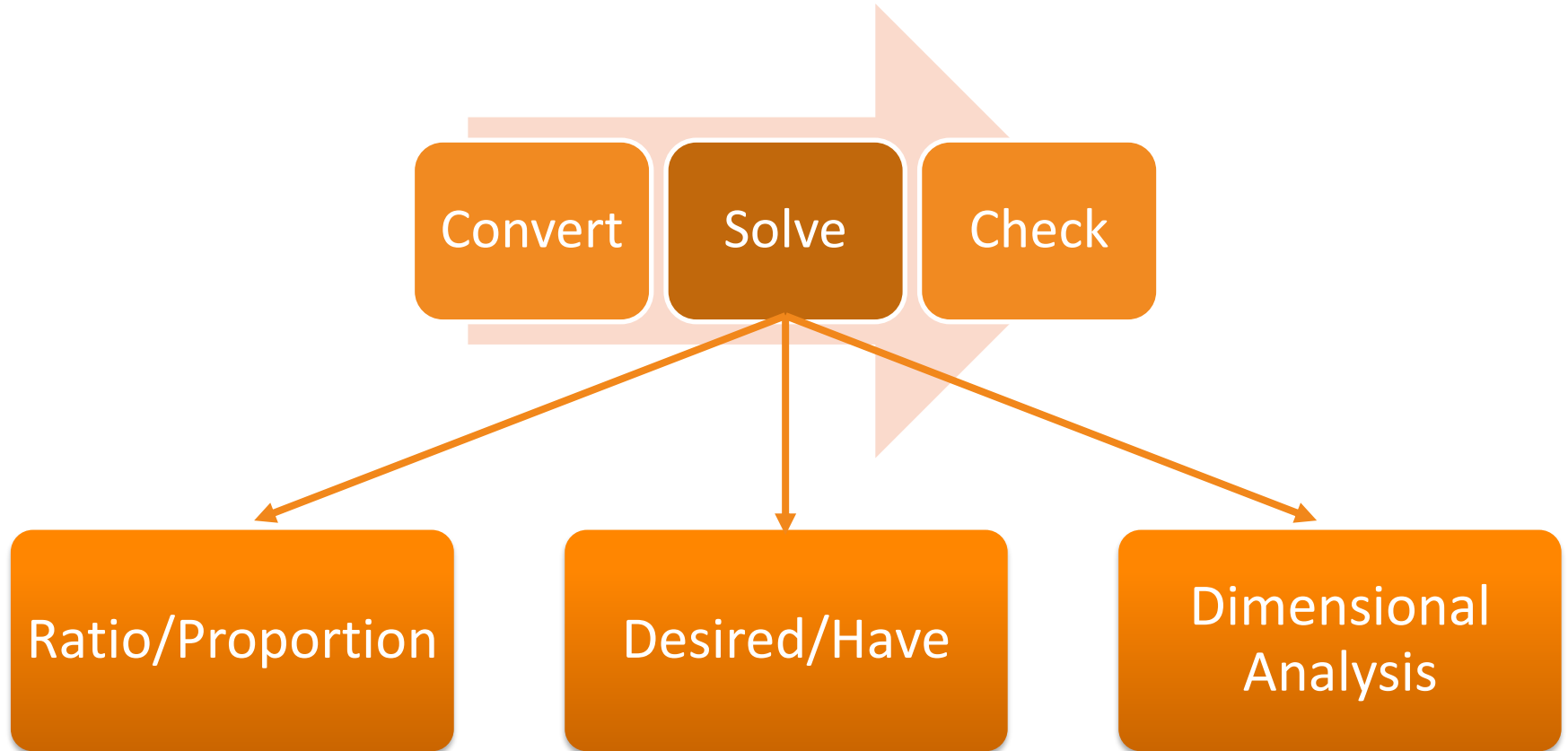
The CSC Method: Convert



The CSC Method



Solve: The Three Methods



Method #1:

RATIO/PROPORTION

$$\begin{array}{ccc} \text{Supply} & & \text{Order} \\ \hline 100 \text{ mg} & = & 300 \text{ mg} \\ 5 \text{ mL} & & x \text{ mL} \end{array}$$

$$100 \times x = 100x$$

$$300 \times 5 = 1500$$

$$\frac{100x}{100} = \frac{1500}{100} = 15 \text{ mL}$$

Method #2:

DESIRED/HAVE

$$(D/H) \times Q$$

Order: 300 mg

Supply: 100 mg/5 mL

$$\left(\frac{300 \text{ mg (desired)}}{100 \text{ mg (have)}} \right) \times 5 \text{ mL (quantity)} =$$

$$3 \times 5 = 15 \text{ mL}$$

Method #3:

DIMENSIONAL ANALYSIS

Supply

CF

Order

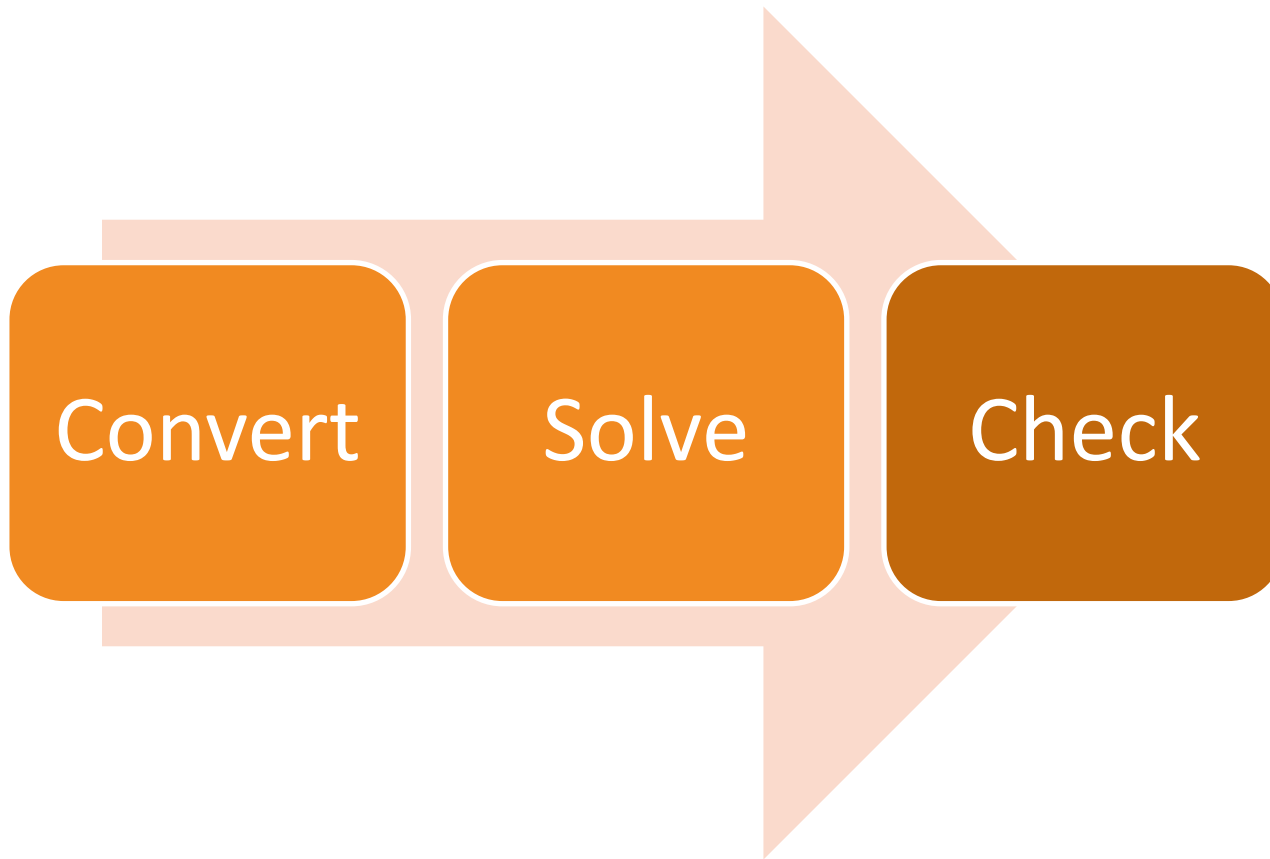
$$x \text{ (label)} = \frac{\text{dosage unit}}{\text{dose supplied}} \times \text{conversion factor} \times \frac{\text{order}}{1}$$

How many **hours** are in 3 weeks?

$$x \text{ (hours)} = \frac{24 \text{ hours}}{1 \text{ day}} \times \frac{7 \text{ days}}{1 \text{ week}} \times \frac{3 \text{ weeks}}{1} =$$

$$x \text{ (hours)} = \frac{24 \text{ hours}}{1 \text{ day}} \times \frac{7 \text{ days}}{1 \text{ week}} \times \frac{3 \text{ weeks}}{1} = 504 \text{ hours}$$

The CSC Method



Medical Math Training Kit



Q&A

For more information please contact Realityworks, Inc.
through email at information@realityworks.com
or call toll free at 800.830.1416

