

REPORT ON THE MAT-010 FINAL EXAM ITEM ANALYSIS SPRING 2009

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As part of the ongoing assessment of our developmental mathematics courses, an item analysis of the spring 2009 Mat-010 final exam was run using all Mat-010 sections, including day, evening, Saturday and off-campus. The following is a summary of those results.

It was found that 50% or more of the students in Mat-010 got the following skills wrong:

- ◆ Dividing integers**
- ◆ Multi-step word problem involving the cost of fencing materials**
- ◆ Percent increase word problem**
- ◆ Converting km to m**

It was found that 35% or more and fewer than 50% of the students in Mat-010 got the following skills wrong:

- ◆ Converting g to kg**
- ◆ Finding the area of a circle**
- ◆ Solving a percent equation**
- ◆ Finding the circumference of a circle**
- ◆ Solving a fractional word problem**
- ◆ Converting ounces to cups**
- ◆ Converting fractions to percent**
- ◆ Adding mixed numbers**
- ◆ Writing a word name for a decimal**
- ◆ Changing a fraction to a repeating decimal**
- ◆ Solving a proportion with similar rectangles**
- ◆ Finding a fraction of a fraction**
- ◆ Whole number order of operations**
- ◆ Subtracting integers**
- ◆ Dividing mixed numbers**
- ◆ Pythagorean Theorem**

It was found that fewer than 20% of the students in Mat-010 got the following skills wrong:

- ◆ Finding the volume of a rectangular solid**
- ◆ Finding the mode of a set of numbers**
- ◆ Converting feet to inches**
- ◆ Adding integers**
- ◆ Subtracting whole numbers**
- ◆ Solving a whole number word problem**
- ◆ Converting a decimal to a percent**
- ◆ Multiplying whole numbers**
- ◆ Place value**
- ◆ Changing a mixed number to an improper fraction**
- ◆ Subtracting decimals**

In order to make use of this information to improve student performance the following steps are recommended:

- 1. Emphasize the skills that students had difficulty with by spending more time teaching and eliciting questions about these topics**
- 2. Use worksheets on these trouble topics that are available in the Mat-010 instructor manual in Center 2 or on the Mathematics Department website, incorporating them into your course in any way you choose.**
- 3. Encourage students to practice these skills when they use any of the technologies available to them with their texts (Aleks or MathZone).**