

REPORT ON THE MAT-010 FINAL EXAM ITEM ANALYSIS Spring 2010

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As part of the ongoing assessment of our developmental mathematics courses, an item analysis of the spring 2010 Mat-010 final exam was run using sections of Mat-010, day, evening Saturday and off-campus, as well and sections of Mat-010B. Scantrons of 344 students were used to compile the following 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 decrease**
- ❖ **Fractional word problem with mixed number subtraction**

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

- ❖ **Finding the area of a circle, given the diameter**
- ❖ **Fractional word problem**
- ❖ **Solving a percent equation**
- ❖ **Converting metric units (m to km)**
- ❖ **Converting metric units (kg to g)**
- ❖ **Multiplying mixed numbers**
- ❖ **Solving a percent problem**
- ❖ **Pythagorean Theorem**
- ❖ **Adding fractions with different denominators**

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

- ❖ **Solving a whole number word problem**
- ❖ **Subtracting whole numbers**
- ❖ **Solving a proportion word problem**
- ❖ **Addition of integers**

- ❖ **Multiplying fractions**
- ❖ **Subtracting unaligned decimals**
- ❖ **Converting a percent to a decimal**
- ❖ **Simplifying a fraction**
- ❖ **Solving a proportion**
- ❖ **Converting a decimal to a percent**
- ❖ **Finding the volume of a rectangular solid**
- ❖ **Solving a whole number word problem**
- ❖ **Dividing fractions (mixed number by a whole number)**
- ❖ **Place value**
- ❖ **Multiplying whole numbers**
- ❖ **Change a mixed number to an improper fraction**

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

- 1. Emphasize the skills with which students had difficulty by devoting 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).**