

# Math 1303 - Math in the Liberal Arts

Homework #3 - 2008.01.25

Due Date - 2008.02.01

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1. Express each repeating decimal as a quotient of two integers.

a)  $1.7\overline{78}$

b)  $1.\overline{778}$

c)  $1.\overline{778}$

2. Simplify the following numbers (if possible).

a)  $\sqrt{5}(\sqrt{10} + 3\sqrt{15})$

b)  $(3 + \sqrt{7})\sqrt{21}$

c)  $(\sqrt{5} - 4)(\sqrt{5} + 4)$

3. Rationalize the following fractions.

a)  $\frac{3+\sqrt{2}}{\sqrt{7}}$

b)  $\frac{3+2\sqrt{5}}{\sqrt{7}+3}$

c)  $\frac{4\sqrt{3}-6\sqrt{2}}{\sqrt{7}+\sqrt{3}}$