Wed Nov 2, 2012 **MATH 210, Quiz 7** Prof. V. Panferov

Name (print): Solutions.

Each problem is worth 2 points. Show all your work.

1. Use Euclid's algorithm to find $GCD(812, 336)$. $= GCD(336, 140)$

$$336 \overline{)812} \quad 2,\quad 812 - 672 = 140$$

$$140 \overline{)336} \quad 2,\quad 336 - 280 = 56$$

$$56 \overline{)140} \quad 2,\quad 140 - 112 = 28$$

$= GCD(140, 56)$

$= GCD(56, 28)$

$= 28$ since $56 = 2 \cdot 28$

2. Write down the prime factorizations of 72 and 112. Then find $GCD(112, 72)$ and $LCM(112, 72)$ and verify that $GCD(112, 72) \cdot LCM(112, 72) = 112 \cdot 72$.

$72 = 8 \cdot 9 = 2^3 \cdot 3^2$

$112 = 2 \cdot 56 = 2 \cdot 8 \cdot 7 = 2^4 \cdot 7$

$GCD(112, 72) = 2^3 = 8$

$LCM(112, 72) = 2^4 \cdot 3^2 \cdot 7 = 1008$

$GCD \cdot LCM = (2^3) \cdot (2^4 \cdot 3^2 \cdot 7)$

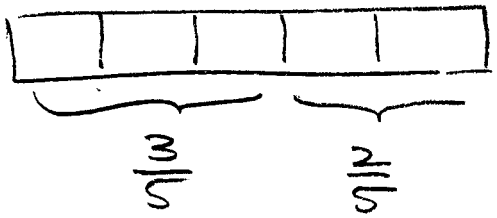
$= (2^3 \cdot 3^2) \cdot (2^4 \cdot 7)$

$= 72 \cdot 112.$

Please turn over...

3. Find the answers to addition/subtraction questions and illustrate by creating bar diagrams:

(a) $1 - \frac{3}{5} = \frac{2}{5}$



(b) $\frac{1}{12} + \frac{5}{12} = \frac{6}{12}$ or $\frac{1}{2}$