MAT125 A Fall 2014
Practice Diagnostic Quiz

In the actual 15 minutes quiz you will be offered to solve one problem, which will be similar to the listed below.

Problem 1. Simplify and write as a fraction

$$\frac{(31\frac{5}{25} - 33\frac{7}{20}) \cdot 3\frac{1}{3} + 0.3}{0.2}$$

Answer

$$-\frac{103}{3}$$

Problem 2. Solve

$$5 \cdot | \, | - 2|x - | - 5| \, | \leq 2$$

Answer

$$\frac{23}{10} \leq x \leq \frac{27}{10}$$

Problem 3.

Find equations of two distinct lines through the point with coordinates $(-1, -3)$.

Answer

$$y = -2 + x; y = -5 - 2x$$

Problem 4.

If $\sin\theta = 1/4$ and $0 < \theta < \pi/2$ find $\cos 2\theta$.

Answer

$$\frac{7}{8}$$

Problem 5.

Simplify

$$\frac{\log_4 2^x \cdot e^{3\ln x}}{3^{4x}}$$

Answer

$$\frac{1}{2}\frac{x^4}{81^x}$$