# Algebra 201-007-50 C2
# Quiz 5
# October 1, 2008

**Name:** SOLUTIONS

**Student Number:**

**1.** *5 marks.* Solve the following system of equations:

$$\begin{aligned} \text{①} \quad 2x + 2y &= 6 \\ \text{②} \quad 5x - 3y &= -22 \end{aligned}$$

① × 3: $6x + 6y = 18$

② × 2: $+(10x - 6y = -44)$

$16x = -26$

$x = \frac{-26}{16} = \frac{-13}{8}$

$2\left(\frac{-13}{8}\right) + 2y = 6$

$\frac{-13}{4} + 2y = 6$

$2y = 6 + \frac{13}{4}$

$2y = \frac{24}{4} + \frac{13}{4}$

$2y = \frac{37}{4}$

$y = \frac{37}{8}$

$\therefore x = \frac{-13}{8}$

$y = \frac{37}{8}$

**2.** *6 marks.* A cinema sells 85 tickets and collects \$810. If regular tickets cost \$11 and student tickets cost \$6 each, how many of each were sold?

LET $x$ BE THE NUMBER OF REGULAR TICKETS AND
LET $y$ BE THE NUMBER OF STUDENT TICKETS

① $x+y=85$

② $11x+6y=810$

① × 11: $11x+11y=935$

$-(11x+6y=810)$

$5y=125$

$y=25$

$x+25=85$

$x=85-25$

$x=60$

∴ 60 REGULAR TICKETS AND 25 STUDENT TICKETS WERE SOLD.