

**Term Test C version 1**

(1) [5 points] Solve the following system of equations by elimination,

$$y = \frac{4}{7}x - \frac{31}{14} \quad (1)$$

$$-3x + 2y = -10 \quad (2)$$

(2) [5 points] A loonie (one Canadian dollar) has a thickness of 1.95mm. The lunar distance from the Earth (distance from Moon to Earth) is 385,000km. Calculate in scientific notation how much money you would need to build a tower of loonies to the Moon. Give your final answer in non-scientific form.

(3) [5 points] Find the inverse of the following matrix,

$$A = \begin{bmatrix} 4 & -5 \\ -3 & 4 \end{bmatrix} \quad (3)$$

(4) [5 points] Solve the equation.

$$\frac{3+x}{2} - \frac{2x-7}{3} = 3 \quad (4)$$

(5) [5 points] The shortest side of a right-angled triangle is 6cm shorter than its hypotenuse. The difference in length of the other two sides (the two sides that are not the hypotenuse) is 3cm. Find the length of the hypotenuse.