

EASTERN UNIVERSITY, SRI LANKA

FIRST YEAR FIRST SEMESTER EXAMINATION IN AGRICULTURE – 2006/2007

AEN 1103 – BASIC MATHEMATICS (1:15/00)
(Repeat)

External Degree



Answer all questions

Time: One hour

1. (a) i. Find the equation of a straight line passes through the point $(-1, 3)$ with slope 2.

ii. Let $A = \begin{pmatrix} 5 & 2 & -1 \\ -1 & 3 & 7 \end{pmatrix}$ and $B = \begin{pmatrix} 4 & -3 & 2 \\ 0 & 7 & -2 \end{pmatrix}$.

Find the matrix $2A - B$.

- (b) Evaluate the following limits:

i. limit $\lim_{x \rightarrow \infty} \frac{2x + 4}{x - 7}$;

ii. limit $\lim_{x \rightarrow 3} \frac{x^2 - 9}{x^2 - x - 6}$

2. (a) Differentiate the following functions with respect to the variable x :

i. $y = x^7(8x^5 + 4)$;

ii. $y = (4x^3 - 2x + 1)/(3 - 5x^2)$.

(PTO)

(b) Integrate the following with respect to x :

i. $(4x + 3)(2x - 1)$;

ii. $x^5/(x^6 + 2)$.