Question 4.

a) $|x - 1| \geq 3$

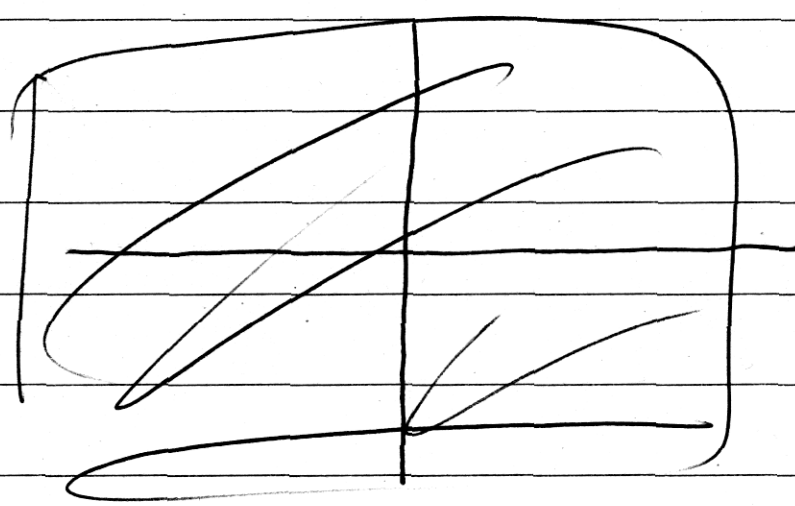
b) $\cos\theta - 2/5 = 0$.

$\cos\theta = \frac{2}{5}$

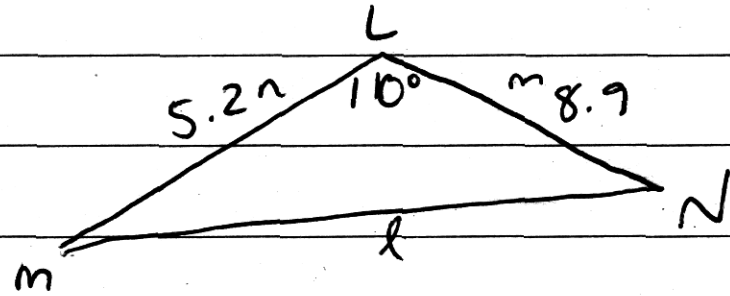
$\frac{2/5}{\cos} = \theta$

$\therefore \theta = 2/5 = 66°25'$

$= 66°$.



c) (i) $a^2 = b^2 + c^2 - 2bc\cos A$.



$\ell^2 = 5.2^2 + 8.9^2 - 2 \times 5.2 \times 8.9 \times \cos 110°$

$= 27.04 + 79.21 - 92.56 \times -0.342020...$

$- 31.657384447$

$= \sqrt{137.907...}$

$\ell = 11.743397...$

$\therefore MN = 11.7\text{ m}$

(ii) $A = \frac{1}{2} bh$

d) (i) B: Inc $y = 2x$

$y' = 2 = 0.$

$y = 6x - x^2$ sub $x = 3.$

$y' = 6 - 2x = 0.$ $y = 18 - 9$

$2x = 6$ $= 9.$

$x = 3.$ St pt. $(3, 9)$

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$-x^2$ negative $\therefore$ concave down

$\therefore$ max TP.

TP = (3, 9)

pt inf $y = 0$.

$0 = 2x$

$\therefore x = 0$ sub into y.

$y = 0$

$6x - x^2 = 0$.

(ii)