NYABURURU GIRLS' HIGH SCHOOL

FORM 4 MATHEMATICS 2018 SET 8.   TIME: 30 MIN

1. A quantity P is partly constant and partly varies inversely as the square of Q. If Q=2 when P=14 and Q=3 when P=9, write an equation connecting P and Q hence find P when Q=6   (4mks)

2. The probability of a student waking up early is $^4/_5$. If she wakes up early the probability of her completing assignment is $^7/_8$. If she does not wake up early , the probability of her completing assignment is ¼. Find the probability that she does not wake up early and completes assignment.

(3mks)

3. Express $\tan60^0$ in surd form. Hence simplify the expression below by rationalizing the denominator: $\frac{\tan 60^0}{1-\tan60^0}$ (3mks)

4. (a) Using a ruler and a pair of compasses only, construct triangle ABC such that AB=6cm,
AC=7cm and angle BAC=60^0. (3mks)

(b) On the same diagram construct:

(i) the locus of points equidistant from A and B. (2mks).

(ii) the locus of points equidistant from AB and BC. (2mks).

(iii) the locus of point D such that angle ADB=90^0 (1mk)

(c) Shade the possible region of point K inside triangle ABC such that: (2mks)

(i) P is nearer to B than to A.

(ii) P is nearer to BC than to AB

(iii) Angle APB$\geq 90^0$