FUNTAJ INTERNATIONAL SCHOOL, GUDU

MATHEMATICS (Paper 2) HOLIDAY ASSIGNMENT 2018/2019 SESSION YEAR 11

1 The table below gives the masses, in kg, of 50 international athletes

67	75	79	56	59	60	64	76	58	80
54	65	78	66	65	65	70	62	70	62
70	61	83	51	74	69	59	73	71	74
73	81	69	82	71	53	67	72	66	70
85	63	58	69	75	61	62	68	52	68

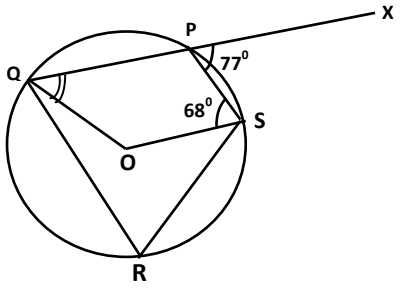
Taking interval of 51-55, 56-60,…,81-85, construct

a) The frequency distribution
b) The histogram of the information
c) Use your histogram to estimate the mode
d) Choose a suitable working mean and hence find the average mass of the athletes
e) Estimate the median

2. If three cards are chosen from a pack without replacement, what is the probability of getting
   a) at least two spades
   b) at most two spades

3. a) Given that $\frac{2\sqrt{2} - \sqrt{5}}{3\sqrt{2} + 2\sqrt{5}} = p + q\sqrt{10}$ where p and q are constants, find the values of p-q

   b)



PQRS are points on a circle centre $\overline{O}$. QP is produced to X. If XPS = 77^0 and PSO = 68^0, find PQO.

4. a) solve the equation $2\sqrt{4x + 1} + x = 38$
   b) Calculate the standard deviation of the set of numbers 2, 5, 6, 7, 3, 8, 9, 8.

5. The table below shows the mark distribution in a test

Marks(%)	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100
frequency	3	17	60	48	27	20	13	8	4

a) Make a cumulative frequency table for the distribution
b) Draw a cumulative frequency curve for the distribution
c) Estimate the percentage of those that obtained more than 56 marks
d) Which mark is at the 70th percentile?

6. A basket contains two red, four blue and five white balls. Three balls are taken out of the basket with replacement. What is the probability of getting:
   i) three balls of the same color
   ii) three balls of different colors?

   b) Express $\frac{\sqrt{5}}{\sqrt{3} - \sqrt{2}}$ in the form $p + \sqrt{q}$, where p and q are integers

7. (a) The following amounts of money are the profits made by a trader on 16 consecutive days

₦3290	₦3350	₦3270	₦3210
₦3400	₦3300	₦3380	₦3260
₦3280	₦3320	₦3300	₦3360
₦3430	₦3250	₦3330	₦3230

Use a working mean of ₦3300 to calculate the mean profit per day.

(b) Find x if the mean of 30, x, 12, 40 and 10 is equal to x

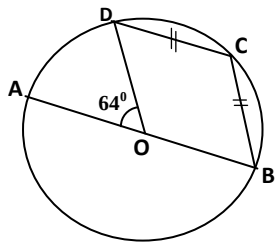
8. The table below shows the heights of 36 students

Heights of 36 students (nearest cm)					
146	147	148	150	151	153
155	156	157	158	158	160
162	163	164	165	165	165
166	167	167	168	169	170
170	171	172	173	174	174
176	177	179	180	183	185

Using class interval 145-154, 155-164,…, 185-194

a) Construct a frequency distribution table showing the class boundary, mid value , cumulative frequency and class width.
b) Draw a histogram and frequency polygon for the distribution.
c) Calculate the mean of the distribution.

9.



(a). In the figure, O is the centre of circle ABCD. AB is a diameter. |BC| = |CD| and AÔD = 64^0. Calculate the angles of quadrilateral OBCD.

b) Simplify $\sqrt{50} - \sqrt{18} - {}^{2}/_{\sqrt{2}}$

10. a) A mother has seven children. The mean age of the children is 13years 2months. If the mother's age is included, the mean age rises to 17years 7months. Calculate the age of the mother.

(b) City A is 300km due east of city B, City C is 200km on a bearing of 123^0 from city B. how far is it from C to A?

GOOD LUCK!