S5 math paper 2 assignment

From the topics you have read about. Answer the questions below

1. **Mechanics.**
2. Forces of magnitude 10N, 3N,5N and 6N act in the direction, N30oW,south, South east and S70oE. Find the magnitude of the resultant force and the angle it makes with the horizontal.
3. A stone is thrown up wards from the ground with an initial speed of 18m/s**.(take acceleration due to gravity g=9.8ms-2)** find the
4. The maximum height reached
5. The time spent in air
6. Time for which its above 20m
7. According to the high way code, a car travelling at 20m/s requires a minimum braking distance of 30m. what retardation is this and what length o time does it take?
8. **Statistics**
9. A box *P* contains 3 red and 5 black balls, while another box *Q* contains 6 reds and 4 black balls. A box is chosen at random and from it a ball is picked and put into another box. A ball is then randomly drawn from the later. Find the probability that;
10. Both balls are red.
11. First ball drawn is black.
12. The table below is the distribution of the distance run during training by members of an athletics club in a particular week.

|  |  |
| --- | --- |
| Distance (km) | Frequency |
| 31 – 40  41 – 45  46 – 50  51 – 55  56 – 57  58 – 60  61 – 70  71 - 90 | 10  15  20  70  64  24  20  10 |

1. Estimate the standard deviation of the athletics (06 marks)
2. Plot an Ogive and use it to estimate the
3. semi-interquartile range
4. number of athletics who ran between 50.0 and 66.0km.