

## Grade 9 Mathematics Worksheet

### Drawing and interpretation of graphs

#### Questions:

1. The following statistics were made available by the South African Police Service:

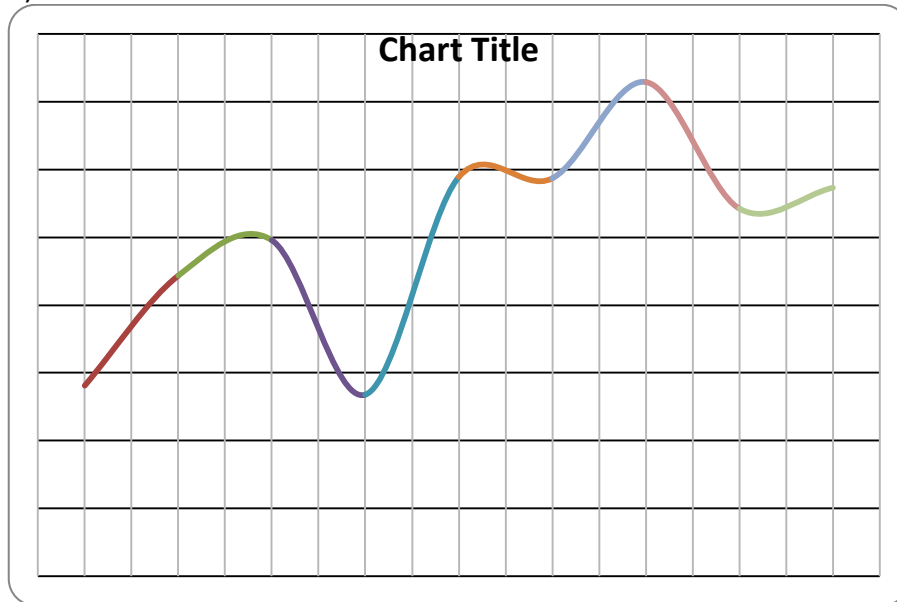
Crime Category	1995/1996	1996/1997	1997/1998	1998/1999	1999/2000	2000/2001	2001/2002	2002/2003	2003/2004
Murder	26877	25470	24486	25127	22604	21758	21405	21553	19824
Rape	49813	51435	51959	49679	52891	52872	54293	52425	52733
Attempted murder	26876	28576	28145	29545	28179	28128	31293	35861	30076

- Draw a line graph representing the **rape statistics**.
- You are the minister of safety and security. How can you use this graph to prove that your department is doing well in what is expected of them?
- You are the opposition member with portfolio safety and security, how can you use this graph to prove that the minister's department is not doing well in what is expected of them.
- Draw a scatter plot on attempted murder and murder. Plot the attempted murder on the horizontal and the murder on the vertical axis.
- Describe the correlation in (d). Is it positive or negative, strong or weak?
- Use the scatter plot in (d) and draw a trendline.

## Grade 9 Mathematics Worksheet

**Solution:**

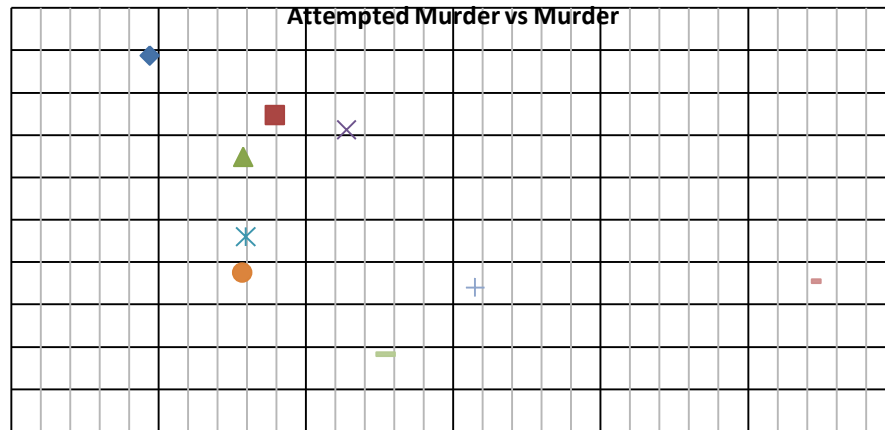
1. a)



- b) As minister I will only focus on the statistics since 2 000 and emphasise the fact that we are still below the number reported in 2000 – 2001. I will also show that we are way below the 2001 – 2002 statistics. There is a slight increase, but again it is not as high as what the increase was for the period 2000 – 2002.
- c) The overall trend in the graph is one of growth, which means the rape statistics are generally becoming worse and rape is on the increase. There are periods when the number of rapes decrease, but the statistics show that we have never fallen to the lows we had before of 49 700. In fact we have never dropped below 50 000 in the last ten years (since 1999). In fact the range for the period 1998 – 2002 shows a clear increase by 4 614 more rapes being committed. The numbers are increasing at the moment, and not decreasing.

## Grade 9 Mathematics Worksheet

d)



e) The data is not clustered closely together which shows a weak correlation. The trend is negative, so we can say that there is a weak negative correlation between attempted murder and murder.

f)

