

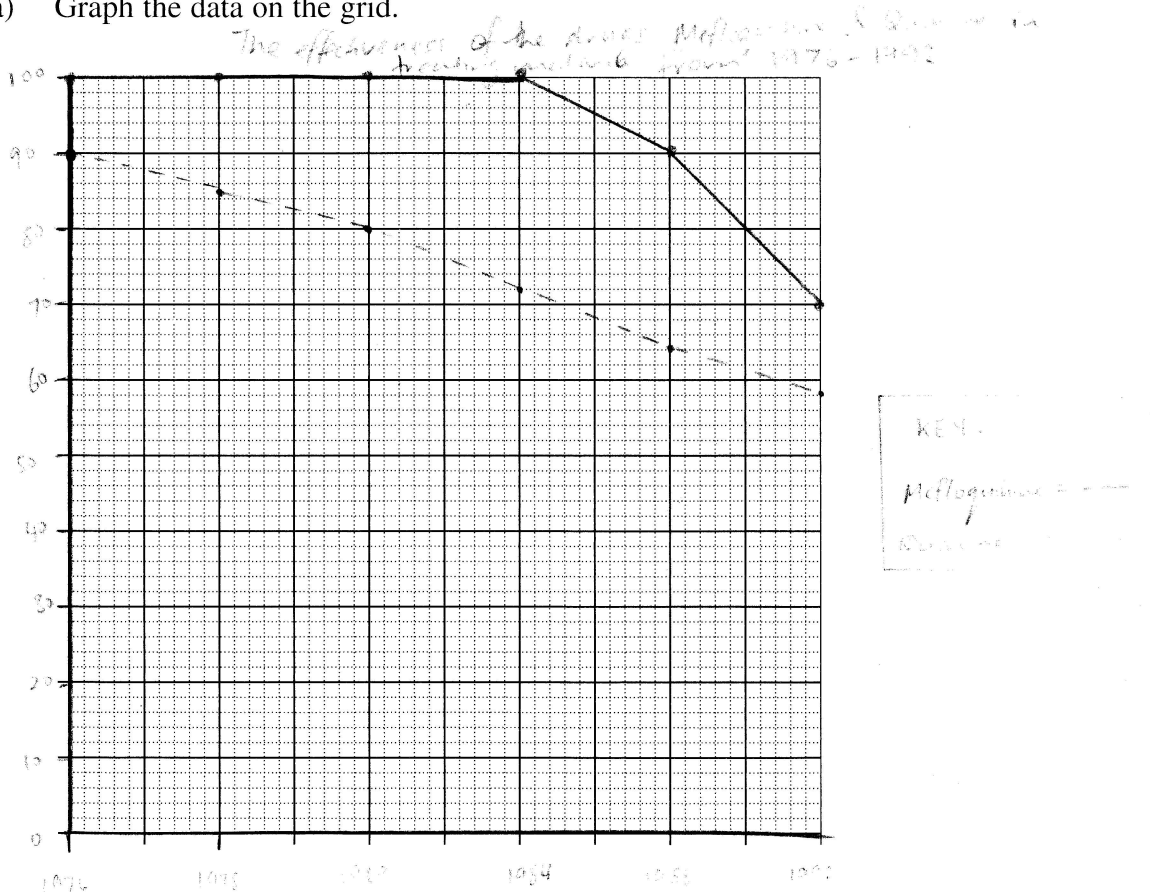
Question 22 (6 marks)

The following data were recorded about the effectiveness of antimalarial drugs for treating malaria.

| Year | Effectiveness of drug (%) | |
|------|---------------------------|---------|
| | Mefloquine | Quinine |
| 1976 | 100 | 90 |
| 1978 | 100 | 85 |
| 1980 | 100 | 80 |
| 1984 | 100 | 72 |
| 1988 | 90 | 64 |
| 1992 | 70 | 58 |

(a) Graph the data on the grid.

3



Question 22 continues on page 11

Question 22 (continued)

- (b) Use these data to explain the impact of human processes on biodiversity.

3

Human processes in this instance have decreased biodiversity. In 1976 the ~~plasma~~^{Malaya} plasmodium would have had variation in its population with some organisms possessing the favourable traits of anti-malarial drug resistance & others not. These plasmodiums with anti-malarial resistance would survive & reproduce passing on this characteristic to their offspring. Over time, the anti-malarial ^{resistance} characteristic becomes more common in the population & the organisms without it become less common. Therefore it can be seen that the use of anti-malarial drugs decreases the numbers of plasmodium without anti-malarial resistance & thus contributes negatively on biodiversity.

End of Question 22