

# TIME SERIES GRAPHS - WORKSHEET



Time series are often mistaken for frequency polygons. Below are their definitions.

**TIME SERIES GRAPHS:** show how something changes over a period of time. Time is always the variable in the x axis.

Example: Annual rainfall in the UK from 1800 to 2012.

## FREQUENCY POLYGONS

These are used to represent grouped data. The midpoints of a histogram can make up the points in a frequency polygon.

Example: The lengths of 1000 ribbons in cm cut at a haberdashery.

## TASK A

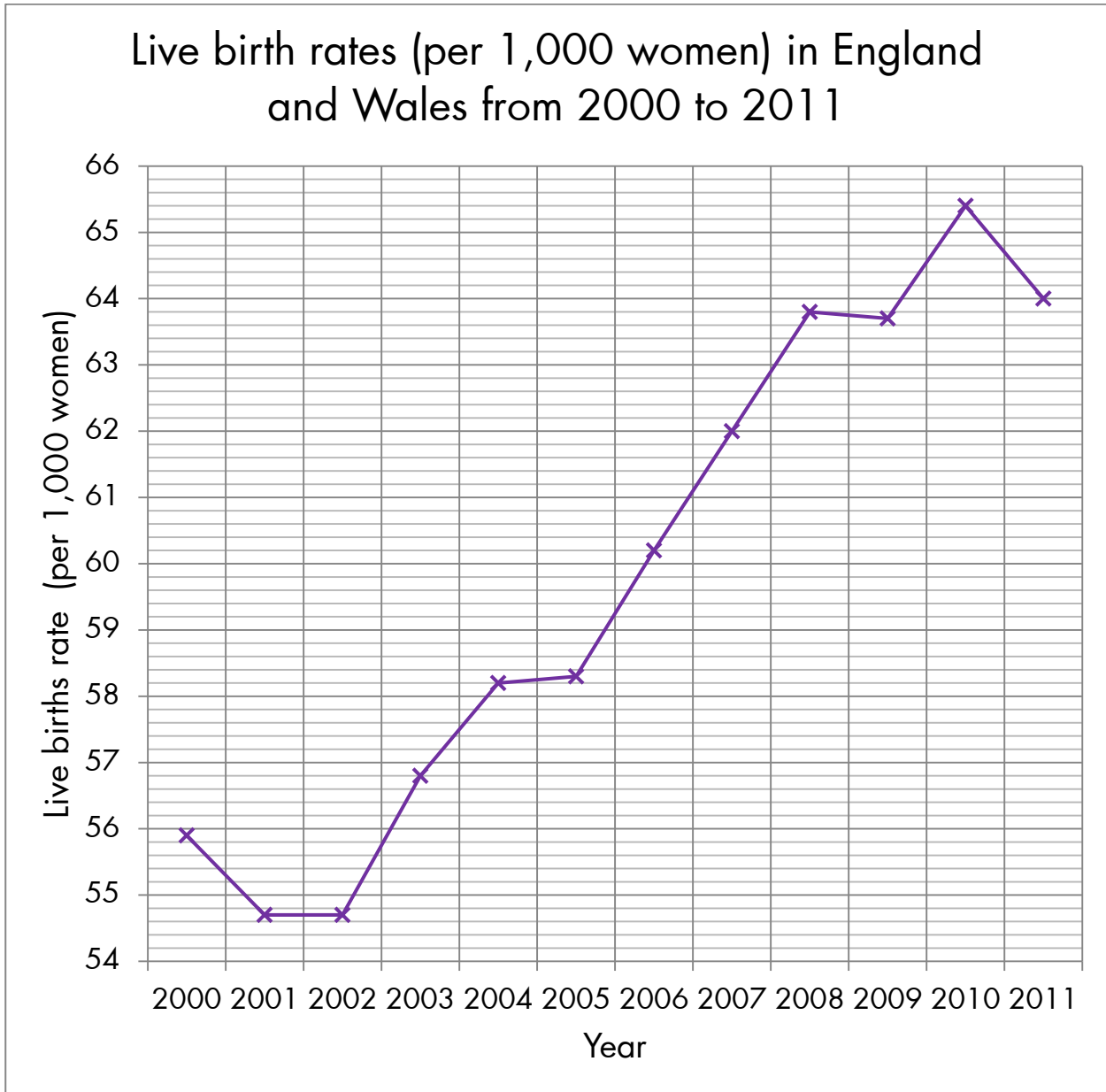
For each of the descriptions below, decide whether you would use a time series graph or a frequency polygon. Tick the correct box.

Description	Time Series Graph	Frequency Polygon
The annual average temperature in the UK from 2000 to 2012.		
The number of sweets in 1000 bags produced on a manufacturer's production line.		
The quarterly sales profits for a retailer for the year 2012.		
The heights of children in a particular school.		
The daily food consumption of a family over a week.		

## TASK B

The time series graph on the next page shows the live birth rates (per 1,000 women) in England and Wales from 2000 to 2011. Use the graph to answer the following questions:

1. What was the live birth rate in 2006?
2. In which year was the live birth rate 63.7?
3. How much did the live birth rate increase by between 2003 and 2006?
4. What was the difference in birth rate between the years 2010 and 2000?
5. What was the average birth rate for the years 2002 to 2004?
6. What was the average birth rate for the years 2005 to 2008?



Data source: [www.ons.gov.uk](http://www.ons.gov.uk) - Birth summary tables, England and Wales 2011 (final).