1) This table shows the average maximum temperatures across the year in Madrid.

| Jan | Feb | Mar | April | May | June | July | Aug | Sept | Oct | Nov | Dec |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $10^{\circ} \mathrm{C}$ | $12^{\circ} \mathrm{C}$ | $16^{\circ} \mathrm{C}$ | $18^{\circ} \mathrm{C}$ | $21^{\circ} \mathrm{C}$ | $27^{\circ} \mathrm{C}$ | $31^{\circ} \mathrm{C}$ | $31^{\circ} \mathrm{C}$ | $26^{\circ} \mathrm{C}$ | $19^{\circ} \mathrm{C}$ | $13^{\circ} \mathrm{C}$ | $10^{\circ} \mathrm{C}$ |

Draw a line graph to represent the information in the table.

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| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
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Write three questions (with answers) about your graph.
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2) This table shows the population of the UK and Spain from 1970 to 2010.

|  | 1970 | 1980 | 1990 | 2000 | 2010 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| UK | 55600000 | 56300000 | 57200000 | 58800000 | 62500000 |
| Spain | 33600000 | 37400000 | 38900000 | 40500000 | 46500000 |

On graph paper, draw one line graph to show the population of both countries from 1970 to 2010.

1) Billie and her friend Kira have been training for a cross-country run. This table shows the distance they were from their starting point over a day:

|  | $08: 00$ | $09: 00$ | $10: 00$ | $11: 00$ | $12: 00$ | $13: 00$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Billie | 0 km | 12 km | 20 km | 25 km | 33 km | 48 km |
| Kira | 0 km | 15 km | 22 km | 30 km | 39 km | 53 km |

Here are some things different children said about how to draw the graph using $\mathrm{cm}^{2}$ paper.
Tick the ones you agree with. If you do not agree, explain why.


The increments for the axis showing distance could have increments which are multiples of 4.


It is best to use different colours to show Billy and Kira's distance.

## Sam

The axis showing time could be divided into 1 time unit every 2 squares so the graph is not too narrow.

Bella

The increments for the axis showing distance should have increments which are multiples of 10 .
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$\qquad$
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On $\mathrm{cm}^{2}$ paper, draw one line graph to show the distances covered by Billy and Kira.

1) A driver set off from a factory at 05:00. This table shows how far she travelled throughout the day:

| Time | Distance |
| :---: | :---: |
| $06: 00$ | 22 miles |
| $07: 00$ | 43 miles |
| $08: 00$ | 58 miles |
| $09: 00$ | 75 miles |
| $10: 00$ | 75 miles |
| $11: 00$ | 97 miles |
| $12: 00$ | 120 miles |
| $13: 00$ | 136 miles |

Freddy draws a line graph where the increments along the $x$-axis are divided into multiples of 1 hour. (05:00, 06:00, 07:00, etc.)

Khatija also draws a line graph but the increments along the $x$-axis are divided into multiples of 2 hours. (05:00, 07:00, 09:00, etc.)
a) On graph paper, draw both Freddy and Khatija's graphs.
b) Whose graph do you think is more accurate and why?
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c) Lewis says he is going to draw a graph where the $x$-axis has increments of half an hour.

If Lewis did this, would this graph be even more accurate?

