

4. Katrina's parents kept this record of her growth from her birth until her 18th birthday.

Katrina's Height

| Age (yr) | Height (in.) |
|----------|--------------|
| birth | 20 |
| 1 | 29 |
| 2 | 33.5 |
| 3 | 37 |
| 4 | 39.5 |
| 5 | 42 |
| 6 | 45.5 |
| 7 | 47 |
| 8 | 49 |
| 9 | 52 |
| 10 | 54 |
| 11 | 56.5 |
| 12 | 59 |
| 13 | 61 |
| 14 | 64 |
| 15 | 64 |
| 16 | 64 |
| 17 | 64.5 |
| 18 | 64.5 |



- Make a coordinate graph of Katrina's height data.
- During which time interval(s) did Katrina have her greatest "growth spurt"?
- During which time interval(s) did Katrina's height change the least?
- Would it make sense to connect the points on the graph? Why or why not?
- Is it easier to use the table or the graph to answer parts (b) and (c)? Explain.

5. Below is a chart of the water depth in a harbor during a typical 24-hour day. The water level rises and falls with the tides.

Effect of the Tide on Water Depth

| Hours Since Midnight | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|----------------------|------|------|------|------|------|------|------|------|------|
| Depth (m) | 10.1 | 10.6 | 11.5 | 13.2 | 14.5 | 15.5 | 16.2 | 15.4 | 14.6 |

| Hours Since Midnight | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|----------------------|------|------|------|------|------|------|------|------|
| Depth (m) | 12.9 | 11.4 | 10.3 | 10.0 | 10.4 | 11.4 | 13.1 | 14.5 |

| Hours Since Midnight | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|----------------------|------|------|------|------|------|------|------|------|
| Depth (m) | 15.4 | 16.0 | 15.6 | 14.3 | 13.0 | 11.6 | 10.7 | 10.2 |

- At what time is the water the deepest? Find the depth at that time.
- At what time is the water the shallowest? Find the depth at that time.
- During what time interval does the depth change most rapidly?
- Make a coordinate graph of the data. Describe the overall pattern you see.
- How did you determine what scale to use for your graph? Do you think everyone in your class used the same scale?



Variables and Patterns #4 and #5