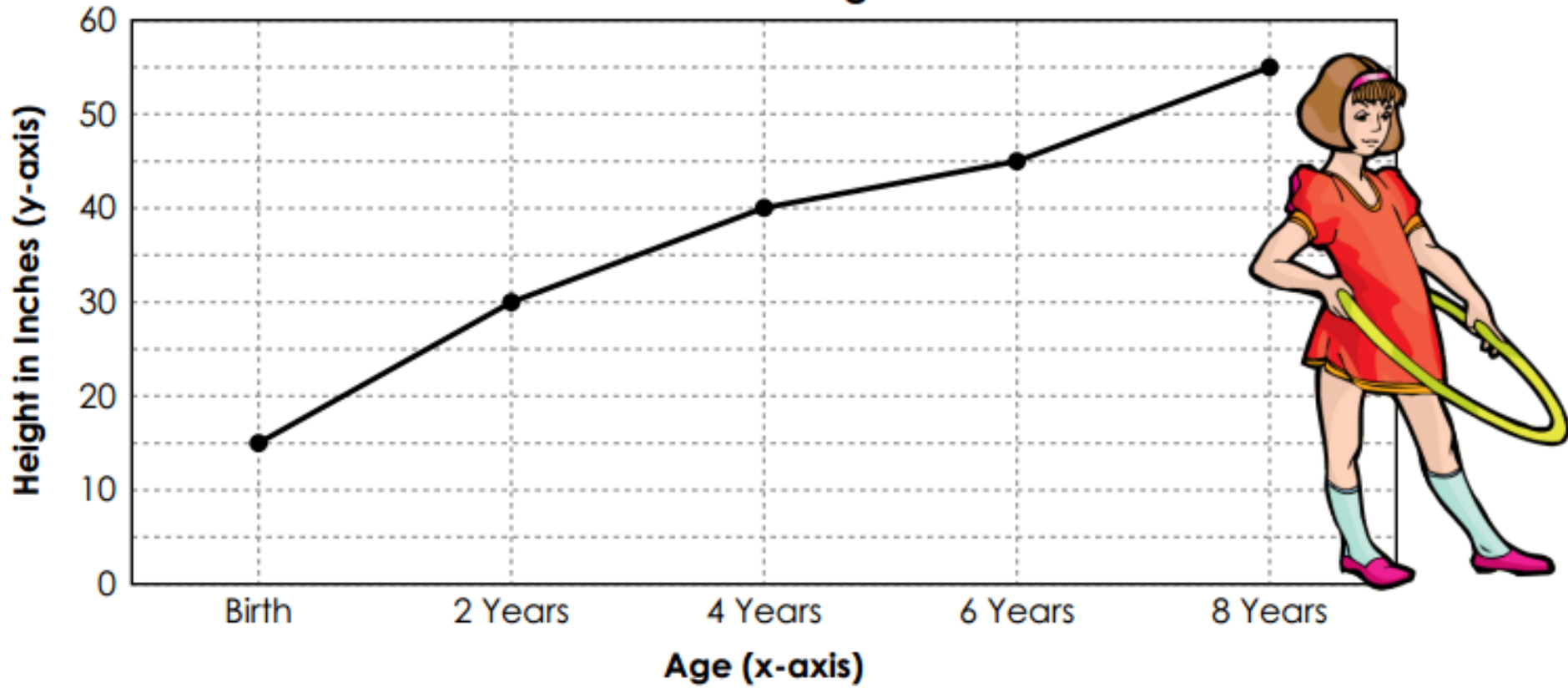# Week 1 – Graphing Exercise

Terms

- <u>x-axis</u> – horizontal axis at the bottom of the graph

- <u>independent variable</u> – used to see if it has an effect on a second variable; represented on x-axis

- <u>y-axis</u> – vertical axis on the left side of the graph

- <u>dependent variable</u> – the variable that is being tested in an experiment; represented on y-axis

Caitlin's Height

Height in Inches (y-axis)

60
50
40
30
20
10
0

Birth   2 Years   4 Years   6 Years   8 Years

Age (x-axis)

Proportionality

•<u>direct relationship</u> – exists when two variables increase or decrease at the same rate; the graph has a linear shape

•<u>indirect relationship</u> – exists when one variable increases as the other decreases; the graph has a hyperbolic shape

All graphs should have:

- A title "dependent vs. independent variable"
- Each axis should be labeled
- Each axis should have an appropriate scale
- Each axis should show units
- A best-fit line or curve should be drawn to represent the data

Volume vs. Temperature

Temperature (K)	Volume (L)
40	20.0
80	40.0
120	60.0
160	80.0
200	100.0
240	120.0
280	140.0
320	160.0
360	180.0
400	200.0
440	220.0

Pressure vs. Volume

Volume (L)	Pressure (atm)
1.0	150.0
1.5	100.0
2.0	75.0
2.5	60.0
3.0	50.0
3.5	42.9
4.0	37.5
4.5	33.5
5.0	30.0
5.5	27.3
6.0	25.0