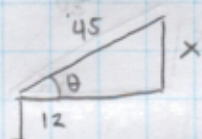


18.

a)

θ	h
0	12
15	23.6
30	34.5
45	43.8
60	51
75	55.5
90	57



$$\sin \theta = \frac{x}{45}$$

$$\text{height} = x + 12$$

$$\sin 15 = \frac{x}{45}$$

$$x = 45 \sin 15$$

$$= 11.6$$

$$x = 45 \sin 60$$

$$= 39$$

$$\sin 30 = \frac{x}{45}$$

$$x = 45 \sin 30$$

$$= 22.5$$

$$x = 45 \sin 75$$

$$= 43.5$$

$$x = 45 \sin 45$$

$$= 31.8$$

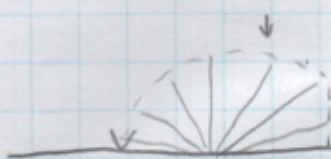
$$x = 45 \sin 90$$

$$= 45$$

b) No, ~~the~~ θ increases consistently by 15 but the change in h is not consistent in the height ✓

c)

parabola shape



Past 90° the height would decrease, coming back to the same values of heights when $\theta \leq 90$ ✓