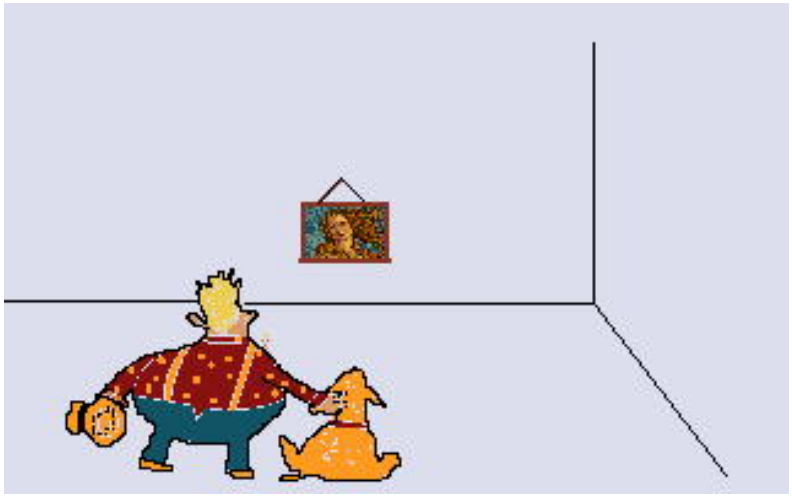
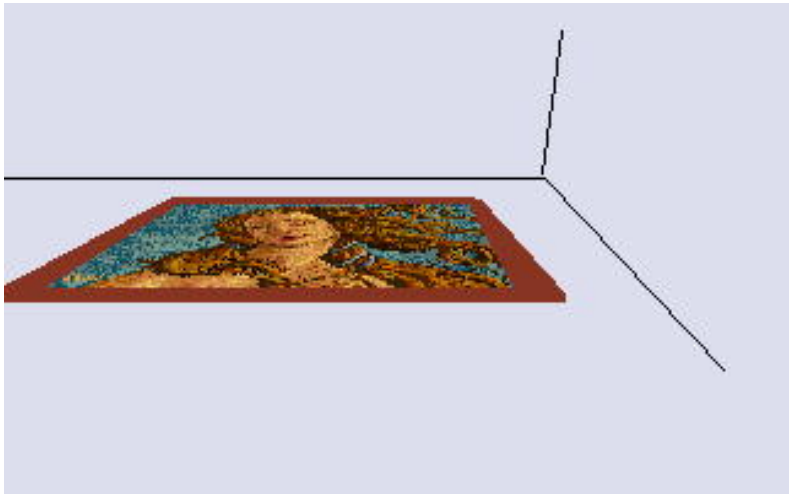
Where should an observer stand for the best view?

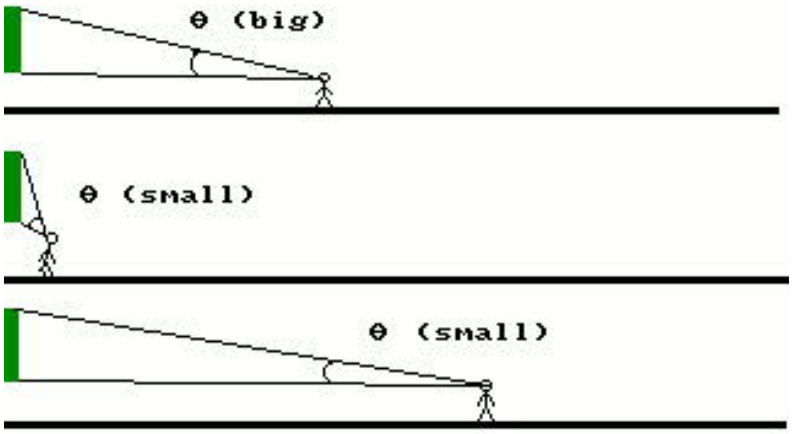
Too far away isn't very good



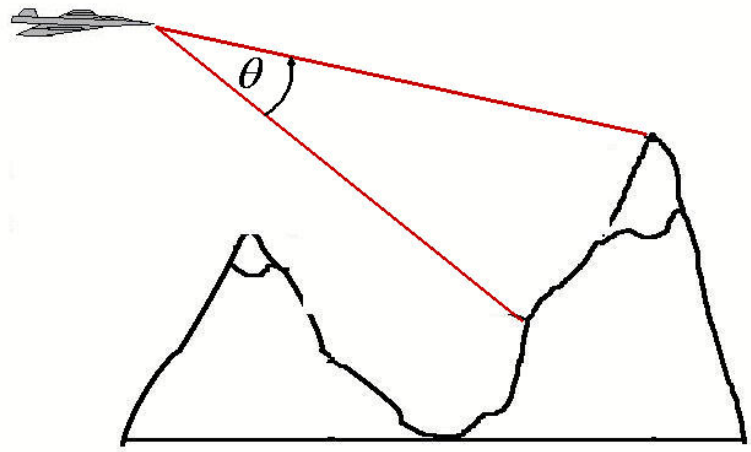
Too close isn't good either



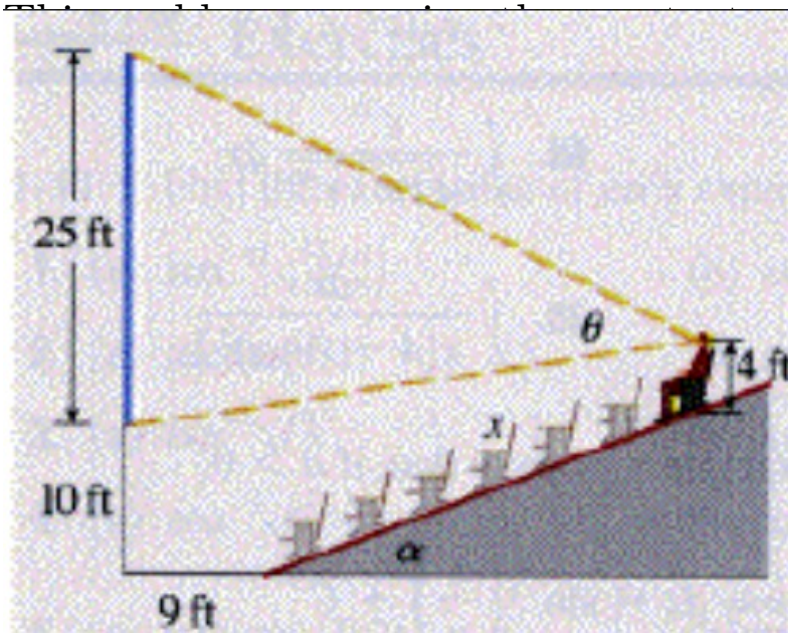
What distance maximizes the angle?



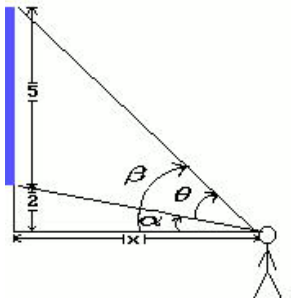
This problem comes in other contexts



This problem comes in other contexts


25 ft
θ
4 ft
x
10 ft
α
9 ft

The angle to be maximized can be related to angles in a right triangle.



$$\theta = \beta - \alpha$$

$$\text{where} \quad \cot\alpha = \frac{x}{2} \quad \text{and} \quad \cot\beta = \frac{x}{7}$$

$$\theta = \operatorname{arccot}\frac{x}{7} - \operatorname{arccot}\frac{x}{2}$$