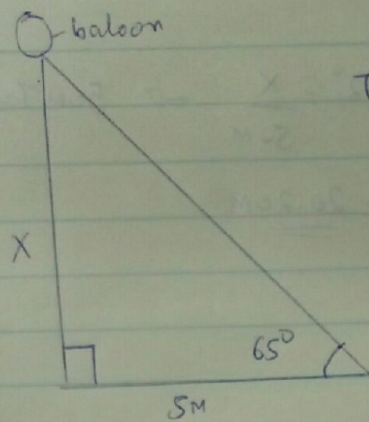




$$\tan \theta = \frac{\text{opposite}}{\text{Adjacent}}$$

$$\text{opposite} = X$$

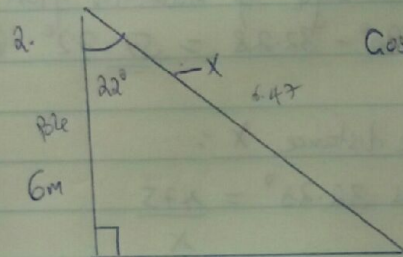
$$\text{Adjacent} = 5m$$

$$\theta = 65^\circ$$

$$\tan 65^\circ = \frac{X}{5m}$$

$$X = 5 \tan 65^\circ$$

$$X = \underline{\underline{10.72m}}$$



$$\cos \theta = \frac{\text{Adjacent}}{\text{Hypotenuse}}$$

$$\text{Adjacent} = 6m$$

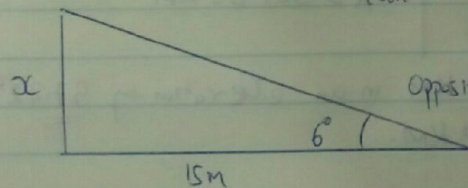
$$\text{Hypotenuse} = X$$

$$\cos \theta = 22^\circ$$

$$\cos 22^\circ = \frac{6}{X}$$

$$\frac{X \cos 22^\circ}{\cos 22^\circ} = \frac{6}{\cos 22^\circ}$$

$$X = \underline{\underline{6.47m}}$$



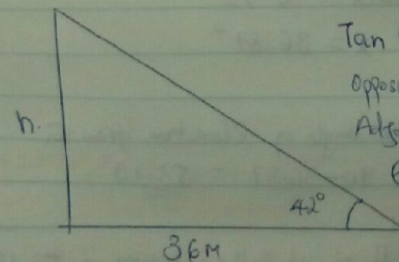
$$\tan \theta = \frac{\text{opposite}}{\text{Adjacent}}$$

$$\text{opposite} = x$$

$$A = 15m$$

$$\tan 6^\circ = \frac{x}{15m} \quad x = 15m \tan 6^\circ$$

$$x = \underline{\underline{1.58m}}$$



$$\tan \theta = \frac{\text{opposite}}{\text{Adjacent}}$$

$$\text{opposite} = h$$

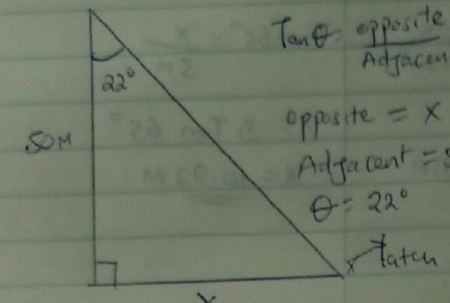
$$\text{Adjacent} = 36m$$

$$\theta = 42^\circ$$

$$\tan 42^\circ = \frac{h}{36} \quad h = 36 \tan 42^\circ$$

$$h = \underline{\underline{32.41m}}$$

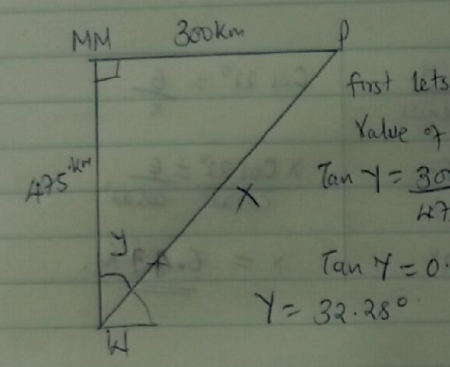
5.



$\tan \theta = \frac{\text{opposite}}{\text{Adjacent}}$
 $\text{opposite} = x$
 $\text{Adjacent} = 50\text{m}$
 $\theta = 22^\circ$

$\tan 22^\circ = \frac{x}{50\text{m}} \rightarrow 50\text{m} \tan 22^\circ = x$
 $x = \underline{20.20\text{m}}$

6.



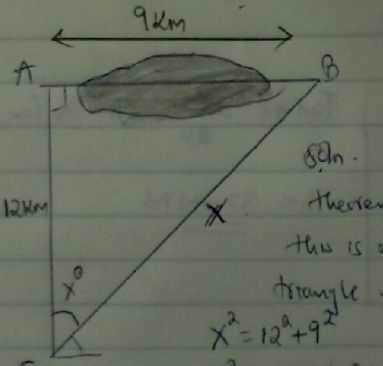
$\text{first let's get Value of } x$
 $\tan y = \frac{300}{475\text{km}}$
 $\tan y = 0.6316$
 $y = 32.28^\circ$

$\therefore \text{The angle of inclination from K}$
 $= 90^\circ - 32.28 = \underline{57.72^\circ}$

$\text{The distance } x =$
 $\cos 32.28^\circ = \frac{475}{x}$
 $x = \frac{475}{\cos 32.28}$
 $x = 561.83\text{ km}$

$\therefore$ Pilot should fly 561.83 km in an elevation of 57.72° NE
 $= 57.72^\circ \text{ North East, } \underline{561.83\text{ km}}$

7.



$\text{Soln. Using Pythagoras theorem, Since this is a right angled triangle.}$
 $x^2 = 12^2 + 9^2$
 $x^2 = 144 + 81$
 $x^2 = 225 \quad x = 15\text{ km}$

$\text{Therefore from } A \rightarrow B = 15\text{ km}$
 $\angle A \text{ or } B = \tan x^\circ = \frac{9}{12}$

$\tan x = 0.75$
 $x = 36.87^\circ$

$\text{The angle of elevation from G}$
 $= 90 - 36.87 = \underline{53.13^\circ}$

$\therefore$ He should take a bearing of 53.13° North East to B a distance of $\underline{15\text{ km}}$