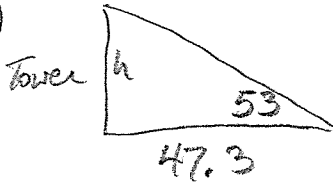


Key : Right Triangle Worksheet

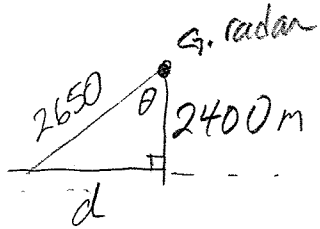
①



$$\tan 53 = \frac{h}{47.3}$$
$$h \approx 62.7692$$

height of tower \approx
62.8 meters

②



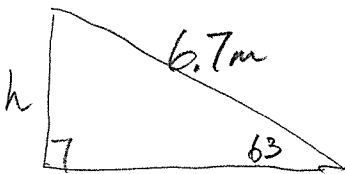
$$\cos \theta = \frac{2400}{2650}$$
$$\theta \approx 25.08$$

$$\sin 25. = \frac{d}{2650}$$

Angle of change $\approx 25^\circ$

$d \approx 1119.9384$
 $d \approx 1,119.9$ meters

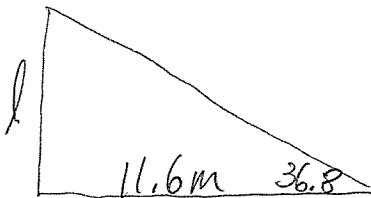
③



$$\sin 63 = \frac{h}{6.7}$$
$$h \approx 5.9697$$

Top of ladder is
 ≈ 6.0 m

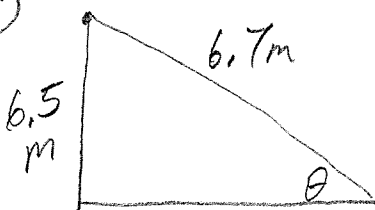
④



$$\tan 36.8 = \frac{l}{11.6}$$
$$l \approx 8.6779$$

length of rope
 ≈ 8.7 m

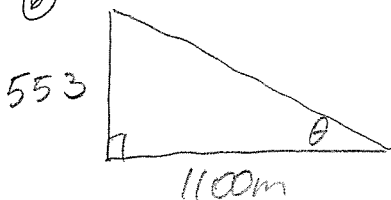
⑤



$$\sin \theta = \frac{6.5}{6.7}$$
$$\theta \approx 75.9654$$

Angle $\approx 76^\circ$

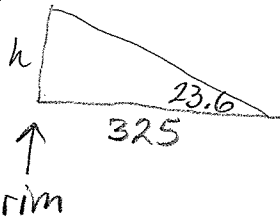
⑥



$$\tan \theta = \frac{553}{1100}$$
$$\theta \approx 26.6899$$

Angle $\approx 27^\circ$

7

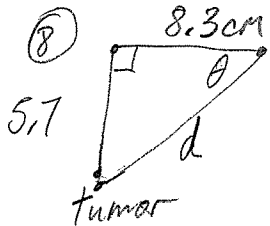


$$\tan 23.6 = \frac{h}{325}$$

$$h \approx 141.9890$$

height $\approx 142.0m$

8



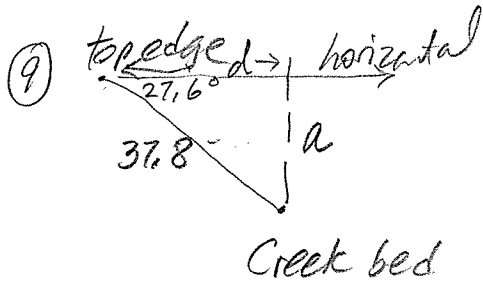
$$\tan \theta = \frac{5.7}{8.3}$$

Angle $\approx 34^\circ$

$$\theta = 34.4792$$

$$\cos 34 = \frac{8.3}{d} \rightarrow$$

$d \approx 10.0116$
 $\approx 10.0cm$



$$\cos 27.6 = \frac{d}{37.8}$$

$$d \approx 33.4985$$

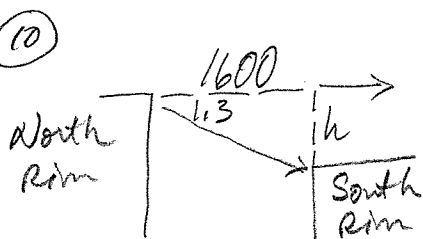
horizontal distance $\approx 33.5m$

$$\sin 27.6 = \frac{a}{37.8}$$

$$a \approx 17.5126$$

distance below surrounding land $\approx 17.5m$

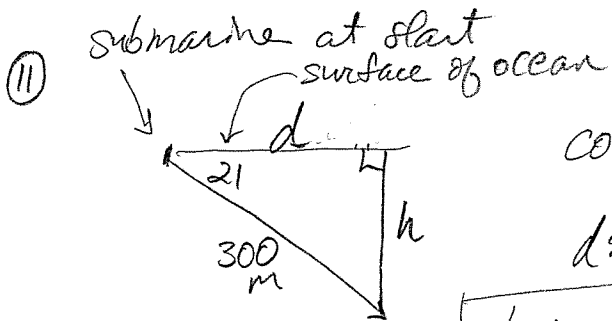
10



$$\tan 1.3 = \frac{h}{1600}$$

$$h \approx 36.3091$$

South Rim is ≈ 36.3 meters below North Rim.



$$\cos 21 = \frac{d}{300}$$

$$d \approx 280.0741$$

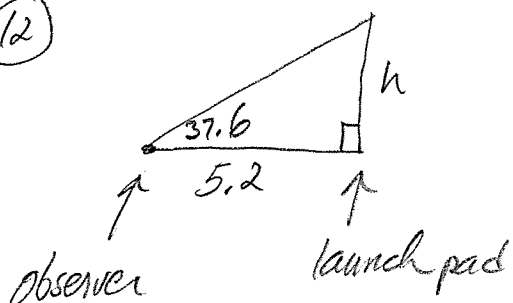
horizontal distance ≈ 280.1 meters

$$\sin 21 = \frac{h}{300}$$

$$h \approx 107.5104$$

depth ≈ 107.5 m

⑫

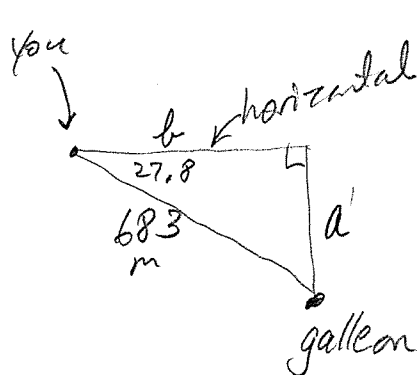


$$\tan 37.6 = \frac{h}{5.2}$$

$$h \approx 4.0045$$

missile is ≈ 4.0 km high.

⑬



$$\sin 27.8 = \frac{a}{683}$$

$$a \approx 318.5421$$

Galleon's 318.5 meters deep.

$$\cos 27.8 = \frac{b}{683}$$

$$b \approx 604.1688$$

Must sail 604.2 m.

