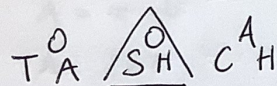
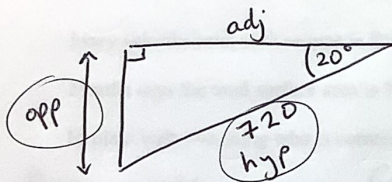
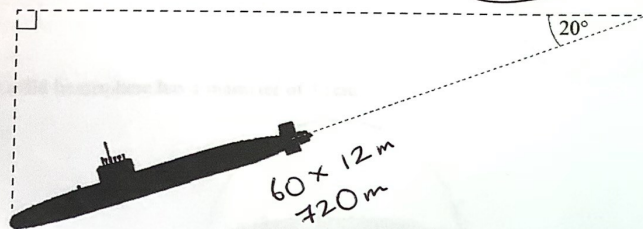


M4 = 43 days to go!

8 A submarine makes a diving angle of 20° below the horizontal as shown. It travels at a constant speed of 12 m/s.

Work out how deep the front end of the submarine is after one minute.



Answer 246 m [4]

$$\text{opp} = \sin(20^\circ) \times 720$$

$$\text{opp} = 246$$

21

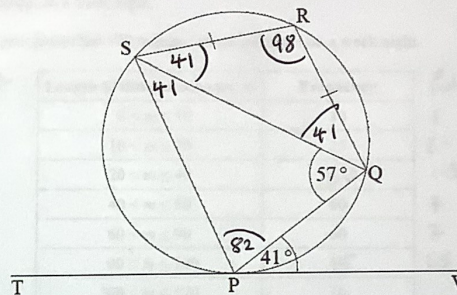


diagram not drawn accurately

TV is a tangent to the circle at P .

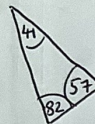
$SR = RQ$

Angle $QPV = 41^\circ$ and angle $SQP = 57^\circ$

Show that SP is parallel to RQ .

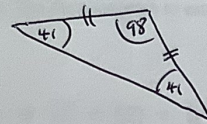
You must give reasons to justify any angles that you calculate.

Angle $\hat{P}SQ = 41$ because of alternate segment thm

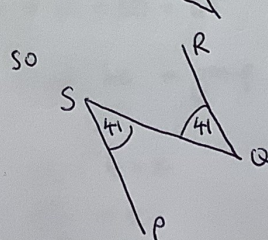


$\hat{S}RQ$ is $180 - 82$ because cyclic quadrilateral

$\hat{S}RQ$ is 98



isosceles triangle



$\hat{R}QS = \hat{P}SQ$ [5]

so PS must be parallel to QR