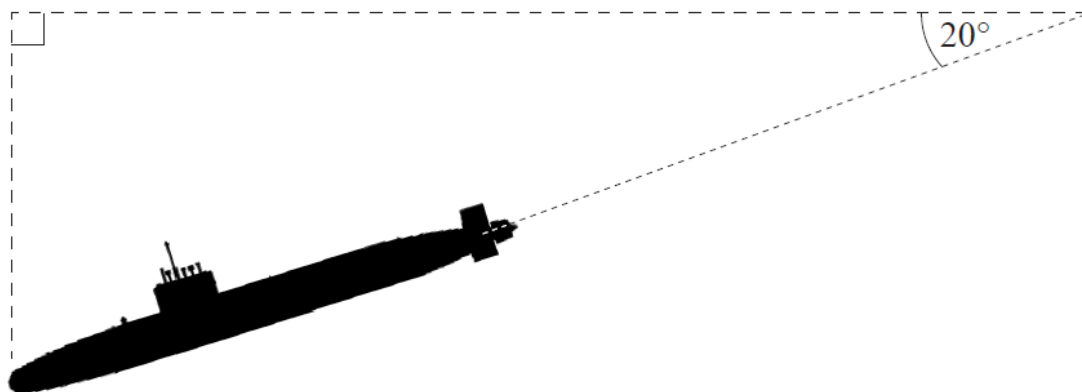


# ~~m4~~ = 43 days to go!

- 8 A submarine makes a diving angle of  $20^\circ$  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 \_\_\_\_\_ m [4]

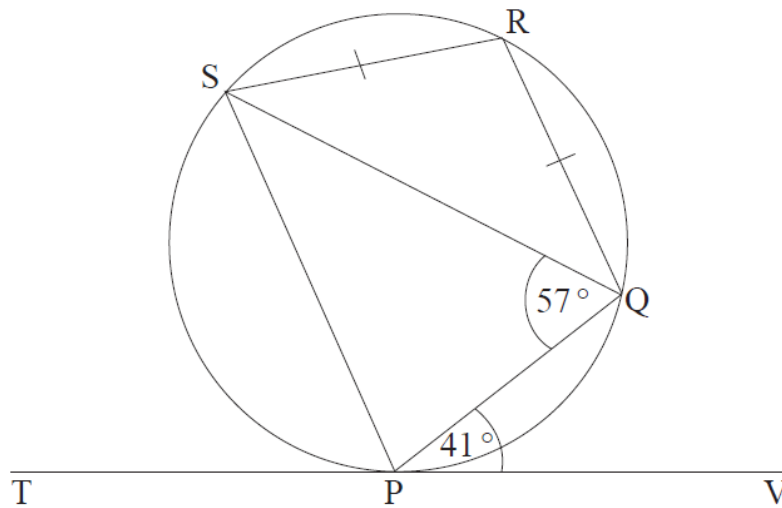


diagram  
not drawn  
accurately

$TV$  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.