14 A submarine has circular windows of diameter 0.30 m. The windows can experience a maximum external pressure of 660 kPa before they crack.

What is the minimum external force needed to crack the windows?

A 47 000 N **B** 190 000 N **C** 310 000 N **D** 620 000 N

15 Four beams of the same length each have three forces acting on them.

Which beam has both zero resultant force and zero resultant torque acting?

A
30 N   50 N
50 cm   30 cm
90 N

B
36 N   70 N
50 cm   30 cm
106 N

C
28 N   35 N
50 cm   30 cm
63 N

D
42 N   70 N
50 cm   30 cm
112 N