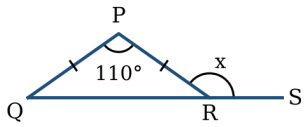
Day 248 **A Tier 10-a-day**

1 ABC is an isosceles triangle with AB = AC.
BCD is a straight line.
Angle BAC = 110°.
Work out the size of angle x.
The diagram is not drawn accurately.

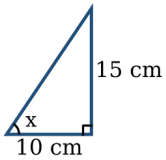


2 A hall is hired for £40 plus £15 for each hour.
(a) Write a formula for the total cost, £C, after h hours.
(b) Omar pays £265 in total. Work out the number of hours.

3 Priya invests £4,500 in a bank account.
(Calculator)
The account pays compound interest at 1.5% per year.
Work out the total interest earned after 4 years.

4 A table exerts a force of 375 N on the floor.
The area in contact with the floor is 1.5 m^2.
Work out the pressure on the floor in N/m^2.

5 (a) Simplify $\sqrt{75}$
(b) Simplify $\sqrt{75} - \sqrt{27}$

Day 248	A Tier 10-a-day
6 $f(x) = \frac{2}{x} - 7$ (a) Find $f^{-1}(x)$ (b) Work out $f^{-1}(6)$	
7 (a) Show that $0.\dot{6}\dot{8} = \frac{68}{99}$ (b) Hence write $4.\dot{6}\dot{8}$ as a mixed number in its simplest form.	
8 A solid is made from a cylinder and a hemisphere. The cylinder has radius 9 cm and height 15 cm. The hemisphere has the same radius as the cylinder and sits on top of it. Work out the total volume. Give your answer in terms of π.	
9 Work out the size of angle x. (Calculator) Give your answer to 1 decimal place. The diagram is not drawn accurately.  	
10 Owen invests £2500 in a savings account. (Calculator) The account pays compound interest at a fixed rate each year. After 2 years there is £2601 in the account. Work out the annual rate of interest.	