

Practice Paper 2 – CALCULATOR

1. A car was bought for £24000.
The value of the car depreciated at a rate of 8.5% every year.
Calculate the value of the car after 4 years. 3

2. Radio signals travel at a speed of approximately 3×10^8 metres per second.
A radio signal from Earth to a space probe takes 1.5 seconds.
Calculate the distance (in metres) from Earth to the space probe.
Give your answer in scientific notation. 3

3. The results (in metres) of the top six athletes in the Women's long jump final at the 2004 Olympic Games in Athens are shown below.

7.07 7.05 7.05 6.96 6.85 6.83

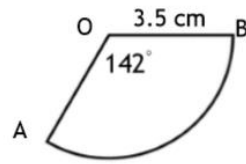
- (a) Calculate (correct to 2 decimal places) the mean and standard deviation of these distances. 4

In the 2016 Olympic Games in Rio, the mean distance for the top six athletes in the Women's long jump final was 7.02 metres and the standard deviation was 0.14 metres.

- (b) Make two valid comparisons between the athletes. 2

4. Solve algebraically $6(x + 7) = 5(4 - x)$ 3

5. The sector AOB shown here has radius of 3.5 centimetres and a sector angle of 142° .



Find the length of the arc AB.

3

6. A shirt has been reduced in price by 40% to £27
Calculate the original price.

3

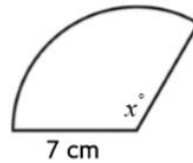
7. Simplify $\frac{3x^2 \times 4x^6}{6x^2}$

2

8. This sector has an area of 55.6 square centimetres and radius 7 centimetres.

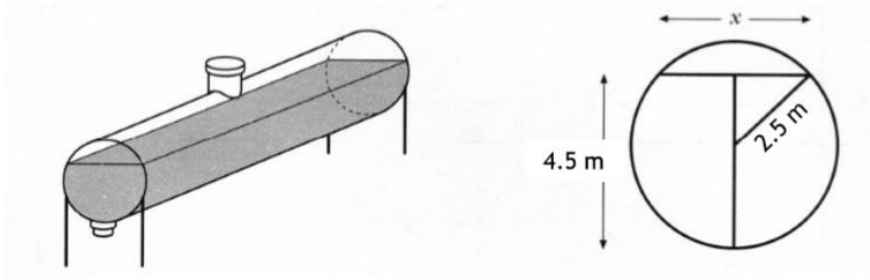
Calculate the size of angle x°

Give your answer to the nearest degree.

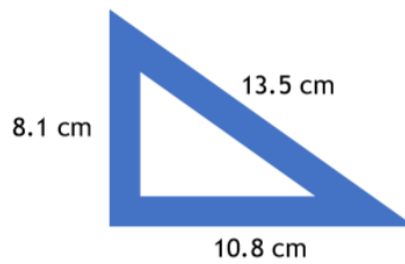


4

10. An oil tank has a circular cross section of radius 2.5 metres.
The tank is filled to a depth of 4.5 metres.



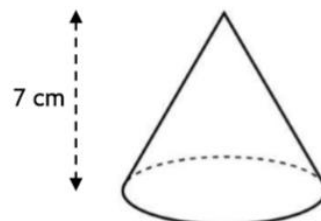
- (a) Calculate x , the width (in metres) of the oil surface. 3
12. A company is producing a new size of set square which must have a perfect right angle at one of its corners.
The company produce a prototype with sides of length 8.1 cm, 10.8 cm and 13.5 cm.



Is this set square acceptable?
You must justify your answer.

3

17. The cone shown has diameter 3 centimetres and vertical height 7 centimetres.
(a) Calculate the volume of this cone.



2

The sphere shown here has volume 268.08 cubic centimetres.

(b) Find (to the nearest centimetre) the radius of this sphere.

