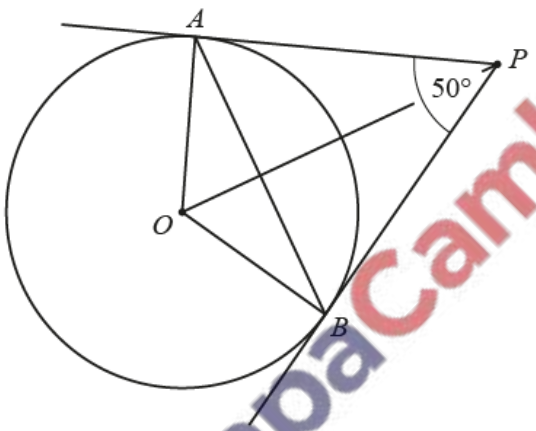
Geometrical Mensuration – 2021 IGCSE 0444

1. June/ 2022/Paper_21/No.17

Find the radius of a sphere of volume $\frac{9}{2}\pi\,\text{cm}^3$.

..... cm [3]

2. June/ 2022/Paper_21/No.18



NOT TO SCALE

The diagram shows a circle, center O.
PA and PB are tangents to the circle at the points A and B.
Angle $APB = 50°$.

(a) Write down the mathematical name for triangle PAB.

..... [1]

(b) Work out.

(i) Angle PAB

Angle PAB = ... [1]

(ii) Angle OAB

Angle OAB = ... [1]

(c) Write down a pair of triangles that are congruent.

..... and ..... [1]

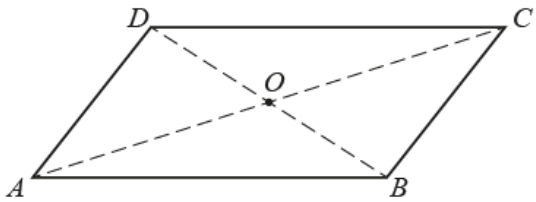
3. June/ 2022/Paper_21/No.19

(a) A vertex of a square-based pyramid is vertically above the center of the base.

Write down the number of planes of symmetry for this pyramid.

..... [1]

(b)



NOT TO SCALE

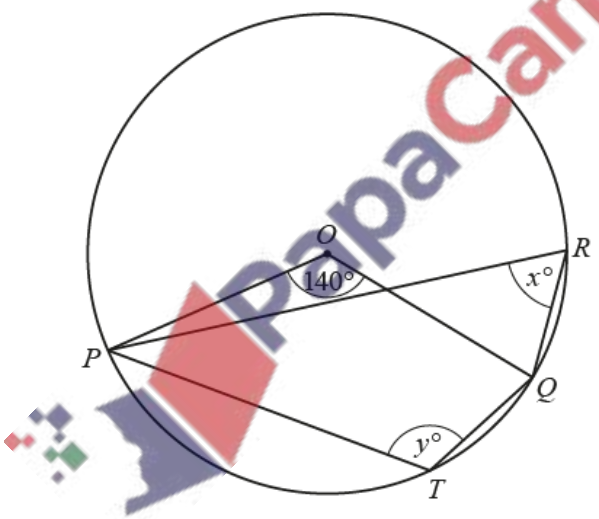
ABCD is a parallelogram and its diagonals meet at *O*.

Describe fully the **single** transformation that maps the parallelogram onto itself but with the points *A*, *B*, *C* and *D* in different positions.

.....

..... [2]

4. June/ 2022/Paper_21/No.20



NOT TO SCALE

P, *T*, *Q* and *R* are points on a circle, center *O*.
Angle *POQ* = 140°.

(a) Work out the value of *x* and give a geometrical reason for your answer.

x = ... because .....

..... [2]

(b) Work out the value of *y*.

y = ... [1]