



1 Given that $x = 16 \times 10^{20n}$ where n is an integer. Find an expression in terms of n for $x^{\frac{5}{4}}$.

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Give your answer in standard form. [Link to Solutions: https://youtu.be/37yZhozn9as](https://youtu.be/37yZhozn9as)

Calculations and Answer

Green Pen Corrections and Notes

(3)

2 The diagram shows the design of a logo made up of a circle and two triangles.

Diagram NOT drawn accurately

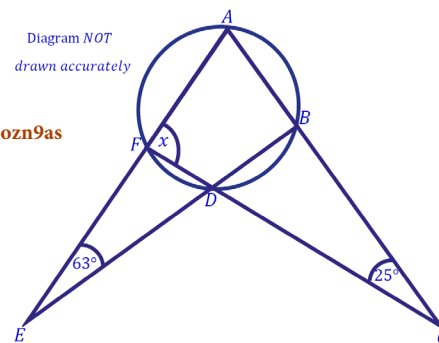
A, B, D and F are points on the circle.

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ABC, CDF, BDE and AFE are straight lines. [Link to Solutions: https://youtu.be/37yZhozn9as](https://youtu.be/37yZhozn9as)

Work out the angle x . Show your working clearly.

Calculations and Answer



Green Pen Corrections and Notes

(4)

3 A particle P is moving along a straight line from a fixed point O which lies on the line.

At time t seconds, the displacement s metres of P from O is given by: $s = 5t^3 - 3t^2 - 4t$.

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(a) Find the speed of the P after 2 seconds.

(b) Find the time at which the acceleration of P is $39ms^{-2}$

Calculations and Answer

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(6)