

Year 08 Weekly Tutorial - 22

mathsalphacom

1. Simplify

a) $\left(\frac{27}{64}\right)^{-\frac{2}{3}}$

b) $\left(\frac{256x^8y^{-1}}{625y^{11}}\right)^{-\frac{3}{4}}$

2. Factorise.

a) $3x^2 - x - 10$

b) $12x^2 - 14x - 6$

3. Solve; $6x^2 + 10x = 4$

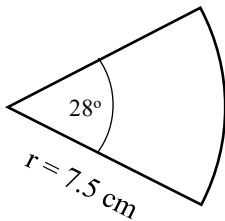
4. Solve. $5x - 3y = 7$
 $3x + 2y = 5$

5. Solve. $3x + 2(x - 1) \leq x - 7$

6. Complete the table and draw the graph for the quadratic function,
 $y = 2x^2 - 3$

x	-3	-2	-1	0	1	2	3
y							

7. Find the surface area and the arc length of the sector.



8. 

a) Find the length of AB.

b) Find the coordinates at midpoint.

c) Find the equation of line AB.

9. Last year, a family recycled 800kg of household waste. 57% of this waste was paper and glass.
Weight of paper recycled : Weight of glass recycled = 12 : 7
Calculate the weight of glass the family recycled.

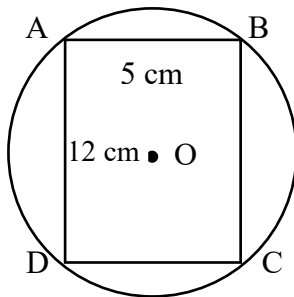
(Edexcel / 2023)

10.

- a) Prove that there is a root for the equation $3x^2 - 4x - 7 = 0$ between 2 and 3.
b) Prove that there is a root for the equation $3x^3 - 2x^2 - 5x = 0$ between 1 and 2.

11. Work out $5.39 \times 10^{-23} - 2.73 \times 10^{-21}$. Give the answer in standard form.

12.



O is the center of the circle.

Diagonals of the rectangle ABCD are meeting at O.

Find the circumference of the circle in term of π .