BA SANGAM COLLEGE
YEAR 11
MATHEMATICS
WORKSHEET 4

1. Simplify $\frac{x^2-4}{2x^2-16x+24}$

2. Make 'r' the subject in $V = \frac{1}{3}\pi r^2 h$

3. When 3 is added to a number and the result is multiplied by 4, the answer is 16. What is the number?

4. Solve $5x + 2 < -3x + 6$

5. Find the total surface area of a cylindrical tin, closed at both ends, that has a diameter of 14cm and a height of 10cm.

6. Factorize the following completely
   (a) $2m^2 - 2m + 4m - 4$

   (b) $4x^2 - 25$

7. Solve for x
   $(x - 3)\left(x + \frac{1}{2}\right)(2x + 4) = 0$

8. Calculate the area of a sphere having a radius of 4cm.

9. Solve $\frac{x+3}{2} + 4 = \frac{x+2}{3}$

10. Factorize $3x^2 - 4x+1$

11. Solve $\frac{w+3}{2} < \frac{w+5}{3}$

12. Solve $\frac{x-3}{2} = \frac{5(x+2)}{4}$

13. Solve / 4x + 8/ = 24

14.Four times a number is subtracted from 50. If the answer is 10. What is the number?

15.(a) For the operation if

a * (b*c) = c * (b*a) then the operation is said to be _____

(b) A set is said to be closed if _____

16. Divide $600 in the ratio 1 : 2 : 3

17. For the equation $E = mc^2$; make 'c' the subject.

18. Make 'r' the subject of the formula in

$V = \frac{1}{3} \pi r^2 h$