

## Edexcel GCSE Mathematics Non-Calculator 2024 Higher Paper 2 Revision Worksheet

## Problem Solving and Exercises

1. Solve the equation below for  $x$ :  $3x - 7 = 2x + 8$
2. A cylinder has a radius of 5 cm and a height of 12 cm. Calculate its volume. Give your answer in terms of  $\pi$ .
3. Expand and simplify:  $2(x + 3) - 4(x - 2)$
4. The  $n$ th term of a sequence is given by  $2n^2 + 3n$ . Find the 5th term of the sequence.
5. Calculate the value of  $y$  when  $y = \frac{5x}{2} - 4$  and  $x = 6$ .
6. A shop sells pencils in packs of 12 for £2.
7. What is the cost per pencil?
8. Factorise completely:  $6x^2 - 9x$
8. The probability of picking a red ball from a bag is  $\frac{3}{8}$ . What is the probability of NOT picking a red ball?
9. Work out:  $\frac{2}{3} + \frac{5}{6}$
10. The straight line  $L$  has the equation  $y = 4x - 1$ . What is the gradient of the line?
12. Calculate the area of a triangle with base 10 cm and height 7 cm.
13. A car travels 150 km in 2 hours 30 minutes. Calculate its average speed in km/h.
14. Simplify:  $\frac{4^3 \times 4^2}{4^4}$
15. The ratio of boys to girls in a class is 5:7. If there are 24 students in total, how many are boys?
16. The number of hours,  $H$ , that some machines take to make 5000 bottles is given by the formula:  
 $H = \frac{72}{n}$  where  $n$  is the number of machines.

On Monday, 6 machines made 5000 bottles. On Tuesday, 9 machines made 5000 bottles.

The machines took more time to make the bottles on Monday than on Tuesday.

**Question:**

How much more time did it take to make the bottles on Monday than on Tuesday?