

SAMPLE 1

**ENTRANCE EXAM IN MATHEMATICS
II YEAR**

1. Simplify

$$\left(\frac{2}{m^2 - m} - \frac{2m}{1 - m^2}\right) \cdot \frac{2m^2 + 2m}{m^3 - 1} + \frac{4}{m - 1}$$

[20]

2. Factorise polynomial $p(x) = x^2 - 7x - 8$
Hence, solve the equation $3x^2 - 21x - 24 = 0$

[20]

3. Solve simultaneous equations

$$\frac{y + 2}{6} - \frac{y - 4}{2} = \frac{x}{3}$$
$$(y - 1) - 2x = -3$$

[20]

4. Find the equation of the line that passes through the point $(-5, 4)$ parallel to the line $6x + 3y - 7 = 0$

[20]

5. A book is sold for \$5.40, at a profit of 8% on the cost price. What was the cost price?

[20]