Factor Theorem 1

1. If $(x-1)$ is a factor of the expression $x^3 - 2x^2 - 5x + 6$, find the other two factors.[Long Division]

2. If $(x-2)$ is a factor of the expression $x^3 + 5x^2 - 2x - 24$, find the other two factors.

3. Solve the equation $x^3 - 3x^2 - 13x + 15 = 0$.

4. Solve the equation $x^3 - 3x^2 - 10x + 24 = 0$.

5. Solve the equation $x^3 + 2x^2 - 16x - 32 = 0$.

6. Solve the equation $x^3 - 19x - 30 = 0$.

7. Solve the equation $3x^3 + 2x^2 - 3x - 2 = 0$.

8. If $(x-3)$ is a factor of the expression $x^3 + kx^2 - 5x + 6$, find the value of k. Hence find the other two factors of the expression.

9. If $(x+1)$ is a factor of the expression $x^3 + 2x^2 + px - 12$, find the value of p. Hence find the other two factors of the expression.

10. If $(x+3)$ is a factor of the expression $2x^3 + 7x^2 + kx - 3$, find the value of k. Hence find the other two factors of the expression.

11. If $(x+2)$ and $(x-3)$ are factors of the expression $x^3 + ax^2 + bx + 6$, find the values of a and b. Hence solve the equation $x^3 + ax^2 + bx + 6 = 0$.

12. If $(x+3)$ and $(x-4)$ are factors of the expression $x^3 + px^2 + qx + 24$, find the values of p and q. Hence solve the equation $x^3 + px^2 + qx + 24 = 0$.

13. If $(2x-1)$ and $(x+3)$ are factors of the expression $ax^3 + 7x^2 + bx - 3$, find the values of a and b. Hence solve the equation $ax^3 + 7x^2 + bx - 3 = 0$.