

$$\begin{aligned}
 7(i) \quad 99^3 &= (100-1)^3 \\
 &= 100^3 - 1^3 - 3 \times 100 \times 1 (100-1) \\
 &= 1000000 - 1 - 300 \times 99 \\
 &= 1000000 - 1 - 29700 \\
 &= 1000000 - 29701 \\
 &= 970299
 \end{aligned}$$

$$\begin{aligned}
 7(ii) \quad 102^3 &= (100+2)^3 \\
 &= 100^3 + 2^3 + 3 \times 100 \times 2 (100+2) \\
 &= 1000000 + 8 + 600 (102) \\
 &= 1000000 + 8 + 61200 \\
 &= 1061208
 \end{aligned}$$

$$\begin{aligned}
 7(iii) \quad 998^3 &= (1000-2)^3 \\
 &= 1000^3 - 2^3 - 3 \times 1000 \times 2 (1000-2) \\
 &= 1000000000 - 8 - 6000 \times 998 \\
 &= 1000000000 - 8 - 5988000 \\
 &= 994011992
 \end{aligned}$$

$$\begin{aligned}
 8(i) \quad 8a^3 + b^3 + 12a^2b + 6ab^2 &= (2a)^3 + b^3 + 3 \times (2a)^2 \times b + 3 \times (2a) \times b^2 \\
 &= (2a+b)^3 \\
 &= (2a+b)(2a+b)(2a+b)
 \end{aligned}$$