

Build - up Exercise 2D



Fundamental Question

37. Factorize the following expressions.

(a) $x^3 - 125$

(b) $1\,000 + y^3$

(c) $z^3 + 512$

38. Factorize the following expressions.

(a) $1 + 8p^3$

(b) $729q^3 - 1$

(c) $-1 + 125r^3$

39. Factorize the following expressions.

(a) $64d^3 - 27$

(b) $64m^3 + 125n^3$



Consolidation Question

40. Factorize the following expressions.

(a) $4b^3 + 4c^3$

(b) $9a^4 - 72a$

(c) $16ab^3 - 250ac^3$

41. Factorize the following expressions.

(a) $p^3q^2 - 125q^2r^3$

(b) $2m^3n^3 - 16m^6$

(c) $-125c^4d - 27cd^4$

42. Factorize the following expressions.

(a) $8 - (1 + x)^3$

(b) $(2 - y)^3 + 8y^3$

(c) $64p^3 - (p + 3)^3$

43. Factorize the following expressions.

(a) $(m + n)n^3 - (n + m)m^3$

(b) $125y^2 + (x - 5)^3y^2$

(c) $2(5r - 2)^3 + 128$

44. Factorize the following expressions.

(a) $8c^6 + 8d^6$

(b) $a^3 + 4a - b^3 - 4b$

(c) $2p^3 - 16q^3 + p^2 - 4q^2$

45. Factorize the following expressions.

(a) $(4x - 1)^3 + (x + 5)^3$

(b) $(5y - 4)^3 - (y - 2)^3$

(c) $(2z + 3)^3 + 27(z + 2)^3$



Challenging Question

46. (a) Factorize $a^6 + b^3$.

(b) Hence factorize $x^6 + (x^2 - 1)^3$.

47. (a) Factorize $8x^3 - 27$.

(b) Hence factorize $16x^3 - 4x - 48$.

48. (a) Factorize the following expressions.

(i) $x^3 + 8$

(ii) $x^2 - x - 6$

(b) Hence factorize $x^3 + x^2 - x + 2$.

