

Factorise each of the following:

$$\textcircled{1} \quad 4x + 4 \qquad \textcircled{2} \quad 4x + x \qquad \textcircled{3} \quad 4x + 8 \qquad \textcircled{4} \quad 4x + 8x \qquad \textcircled{5} \quad x^2 + x$$

$$\textcircled{6} \quad 4x^2 + 2x \qquad \textcircled{7} \quad -4x - 4 \qquad \textcircled{8} \quad -4x + x \qquad \textcircled{9} \quad -4x^2 - 8x \qquad \textcircled{10} \quad x^3 + x^2$$

$$\textcircled{11} \quad -4x^3 - 8x^4 \qquad \textcircled{12} \quad 4xy + 8x \qquad \textcircled{13} \quad 4xy^2 + 8xy \qquad \textcircled{14} \quad -4x^2y - 8xy^2$$

$$\textcircled{15} \quad (x + 4)(x + 8) + (x + 4) \qquad \textcircled{16} \quad (x + 4)(x + 8) + (x + 4)(x - 2) \qquad \textcircled{17} \quad (x + 4)(x + 8) + (x + 4)^2(x + 8)$$

$$\textcircled{18} \quad (x + 4)(x + 8) + (x + 4)(x + 8) \qquad \textcircled{19} \quad (x + 4)(x + 8) - (-x - 4)(x + 8) \qquad \textcircled{20} \quad (x + 4)(x + 8) - (-x - 4)(x + 2)$$

$$\textcircled{21} \quad (2x + 8)(x + 8) + (3x + 12)(x + 8) \qquad \textcircled{22} \quad -8x^2y^3(x + 4)(2x + 16) - 4xy^4(x + 4)^3(x + 8)$$

$$\textcircled{23} \quad 4^n + 16^n \qquad \textcircled{24} \quad 4^{n+1} + 4^n \qquad \textcircled{25} \quad \cos^2 x + \cos x \qquad \textcircled{26} \quad -4\sin^2 x + \sin^3 x$$