

次の式を因数分解しよう！

$$(1) x^3 + 11x^2 + 31x + 21$$

$$(2) x^3 - 3x^2 - 49x - 45$$

$$(3) x^3 + x^2 - 58x - 112$$

$$(4) x^3 + 7x^2 - 33x - 135$$

$$(5) x^3 + 10x^2 + 19x - 30$$

$$(6) x^3 - 6x^2 - x + 30$$

$$(7) x^3 - 7x^2 - 10x + 16$$

$$(8) x^3 + 3x^2 - 36x + 32$$

$$(9) x^3 + x^2 - 46x + 80$$

$$(10) x^3 - 15x^2 + 68x - 96$$

【解答】

(1) $(x + 1)(x + 3)(x + 7)$

(2) $(x + 1)(x + 5)(x - 9)$

(3) $(x + 2)(x + 7)(x - 8)$

(4) $(x + 3)(x - 5)(x + 9)$

(5) $(x - 1)(x + 5)(x + 6)$

(6) $(x + 2)(x - 3)(x - 5)$

(7) $(x - 1)(x + 2)(x - 8)$

(8) $(x - 1)(x - 4)(x + 8)$

(9) $(x - 2)(x - 5)(x + 8)$

(10) $(x - 3)(x - 4)(x - 8)$