Expanding Three Brackets

Video 15 on www.corbettmaths.com

Examples

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Workout

Question 1: Expand and simplify

(a) $(x + 3)(x + 2)(x + 1)$ (b) $(x + 2)(x + 2)(x + 5)$ (c) $(x + 3)(x - 2)(x + 1)$

(d) $(x - 1)(x - 2)(x + 7)$ (e) $(x - 2)(x - 3)(x - 4)$ (f) $(x - 6)(x + 1)(x - 2)$

(g) $(2x + 1)(x + 3)(x + 1)$ (h) $(3x - 2)(x + 5)(x - 1)$ (i) $(5x + 3)(x - 1)(x + 2)$

(j) $x(x - 3)(2x + 5)$ (k) $(3x + 5)(3x + 2)(x - 10)$

Question 2: Expand and simplify

(a) $(x + 2)^3$ (b) $(x + 5)^3$ (c) $(x - 3)^3$

(d) $(x - 5)^3$ (e) $(x + 1)(x + 3)^2$ (f) $(x - 5)(x - 4)^2$

(g) $(2x + 3)^3$ (h) $(4 - x)^3$ (i) $(5 - 2x)^3$

(j) $(x + 2)(3 - x)^2$ (k) $x(x + 6)^2$

Question 3: Expand and simplify

(a) $(3x + 2)(x + 1)(x + 5) + (x + 3)^3$ (b) $(2x - 3)^3 - (x - 4)^3$

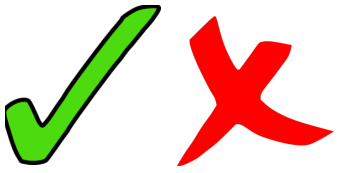
Apply

Question 1: Given $(x + 3)(x + a)(x + 7) = x^3 + 15x^2 + 71x + 105$, find a.

Question 2: Given $(ax + 1)(x - 3)(x + b) = 2x^3 - 3x^2 - 8x - 3$, find a and b.

Question 3: Given $(x + a)^2(x - 2) = x^3 + bx^2 + 12x - 72$, find a and b

Answers



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