

Watch. Practice. Understand. | Lesson 010

Factoring a trinomial or binomial by using a smiley face technique

Watch the matching video: <https://www.youtube.com/watch?v=tW7CEUoQrgY>

Practice focus: Factoring polynomials

Original extra practice matched to the listed lesson topic.

Name: _____ Date: _____ Show your reasoning and check units.

01 Factor $6x^2 + 11x + 3$.

02 Factor $x^3 - 27$.

03 Factor $2x^3 - 8x$ completely over the real numbers.

04 Factor $x^4 - 5x^2 + 4$.

Worked answers | Lesson 010

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01 Factor $6x^2 + 11x + 3$.

Split $11x$ into $9x + 2x$; grouping gives $(3x + 1)(2x + 3)$.

02 Factor $x^3 - 27$.

Difference of cubes: $(x - 3)(x^2 + 3x + 9)$.

03 Factor $2x^3 - 8x$ completely over the real numbers.

Take out $2x$: $2x(x^2 - 4) = 2x(x - 2)(x + 2)$.

04 Factor $x^4 - 5x^2 + 4$.

Use $u = x^2$: $(u - 1)(u - 4)$. Result: $(x - 1)(x + 1)(x - 2)(x + 2)$.