Objective 1 - Factor trinomials

Factor a trinomial with leading coefficient 1 and greater than 1.

Link to section in online textbook

One of the most important tools we will learn in this class is how to factor. We will need it in nearly all Modules from now on.

Watch this video to review the basics for factoring trinomials. **Important: You may be able to factor these trinomials by guessing and checking. However, learning this basic technique will help you when you need to factor more difficult trinomials!**

Now try to factor the following polynomials.

Question 1 *Factor the trinomial below.*

$x^2 + 22\,x + 112$

$(\boxed{x + 8})\,(\boxed{x + 14})$

Question 2 *Factor the trinomial below.*

$x^2 + 32\,x + 220$

$(\boxed{x + 10})(\boxed{x + 22})$

Now that we have the basic technique to factor trinomials, we can focus on more difficult trinomials. Watch this video to learn how to use the previous technique and extend it to trinomials with leading coefficient greater than 1.

Now try to factor the following polynomials.

Question 3 *Factor the polynomial below.*

$36\,x^2 - 25$

$(\boxed{6\,x - 5})(\boxed{6\,x + 5})$

Question 4 *Factor the polynomial below.*

Learning outcomes: Understand quadratic functions.
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$64\,x^2 - 25$

$(\boxed{8\,x - 5})(\boxed{8\,x + 5})$

Question 5 *Factor the polynomial below.*

$21\,x^2 + 85\,x + 50$

$(\boxed{7\,x + 5})(\boxed{3\,x + 10})$

Question 6 *Factor the polynomial below.*

$21\,x^2 + 76\,x + 63$

$(\boxed{3\,x + 7})(\boxed{7\,x + 9})$

Question 7 *Factor the polynomial below.*

$100\,x^2 + 167\,x - 14$

$(\boxed{25\,x - 2})(\boxed{4\,x + 7})$

Question 8 *Factor the polynomial below.*

$375\,x^2 - 265\,x + 42$

$(\boxed{15\,x - 7})(\boxed{25\,x - 6})$

Question 9 *Factor the polynomial below.*

$135\,x^2 - 24\,x - 16$

$(\boxed{9\,x - 4})(\boxed{15\,x + 4})$
