

Ready, Set, Go!



Ready

Topic: Creating binomial quadratics

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Multiply

1. $x(4x - 7)$ 2. $5x(3x + 8)$

3. Are the answers to problems 1 & 2 quadratics? Justify!

4. Write a rule for factoring a quadratic, written in standard form ($ax^2 + bx + c$) when c equals 0.

Multiply

5. $(x + 9)(x - 9)$ 6. $(x + 2)(x - 2)$ 7. $(6x + 5)(6x - 5)$ 8. $(7x + 1)(7x - 1)$

9. The answers to problems 5, 6, 7, & 8 are quadratics. Which coefficient, a , b , or c , equals 0?

10a. Multiply $(x - 13)(x + 13)$ (Show all of your steps.) b. Then multiply $(x - 13)(x - 13)$.

11a. Multiply $(a - b)(a + b)$ (Show all of your steps.) b. Then multiply $(a + b)(a + b)$.

These problems represent two different types of special products. The first is called a ***difference of 2 squares***, while the second one is called a ***perfect square trinomial***. If you can recognize these, you will make factoring easier for yourself. Explain how you will recognize these two special products. Include, how they are the same, how they are different, and how they factor.

12. <i>Difference of 2 squares</i>	13. <i>Perfect square trinomial</i>
a. <i>Example:</i>	a. <i>Example:</i>
b. <i>Same?</i>	
c. <i>Different?</i>	
d. <i>Factor?</i>	d. <i>Factor?</i>



Set

Topic: factoring quadratic expressions

Factor the following quadratic expressions into two binomials.

14. $x^2 - 4x - 45$

15. $x^2 - 12x - 45$

16. $x^2 - 44x - 45$

17. $x^2 - x - 72$

18. $x^2 + 14x - 72$

19. $x^2 - 6x - 72$

20. $x^2 - 12x + 36$

21. $x^2 - 36$

22. $x^2 - 15x + 36$

23. $15x^2 - 26x + 8$

24. $15x^2 - 2x - 8$

25. $15x^2 - 37x - 8$

26. Look back at each “row” of factoring problems. Explain how it is possible for the coefficient of the middle term to be different numbers in each problem when the “outside” coefficients are basically the same.

Go

Topic: Taking the square root of perfect squares

Only some of the expressions inside the radical sign are perfect squares. Identify which ones are perfect squares and take the square root. Leave the ones that are not perfect squares under the radical sign. Do not attempt to simplify them. (*Hint: Check your answers by squaring them. You should be able to get what you started with, if you are right.*)

27. $\sqrt{(17xyz)^2}$

28. $\sqrt{(3x - 7)^2}$

29. $\sqrt{121a^2b^6}$

30. $\sqrt{x^2 + 32x + 16}$

31. $\sqrt{4x^2 + 28x - 49}$

32. $\sqrt{4x^2 + 28x + 49}$

33. $\sqrt{x^2 - 16}$

34. $\sqrt{x^2 + 9}$

35. $\sqrt{x^2 + 10x + 100}$

36. $\sqrt{225x^2 + 30x + 1}$

37. $\sqrt{169x^2 - 260x + 100}$

