

Unit 5 Part 1

Lesson 3

Trinomial Factoring $A=1$

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$$\sqrt{81} - \sqrt{2^2}$$

$$(a + 2)(a - 2)$$



$$x^3 - 25x$$

$$x(x^2 - 25)$$

$$x(x+5)(x-5)$$

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$$1 \cdot \textcircled{2} \quad 2x^2 - 242 \quad 1 \cdot \textcircled{2}$$

$$2(x^2 - 121)$$

$$2(x+11)(x-11)$$

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➤ Multiply (Distribute):

1. $(x + 3)(x + 6)$

$x^2 + 6x + 3x + 18$

$x^2 + 9x + 18$

2. $(x - 4)(x - 5)$

$x^2 - 5x - 4x + 20$

$x^2 - 9x + 20$

3. $(x + 5)(x - 3)$

$x^2 - 3x + 5x - 15$

$x^2 + 2x - 15$

4. $(x - 2)(x + 4)$

$x^2 + 4x - 2x - 8$

$x^2 + 2x - 8$

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➤ How to factor trinomials: $x^2 + bx + c$

○ **STEP 1:** $(x \quad)(x \quad)$

○ **STEP 2:** Find 2 numbers that **multiply** to = c
that **add/subtract** to = b


○ **STEP 3:** Put the PLUS / MINUS signs in correctly


➤ Factor Completely:

<p>1. $x^2 + 6x + 8$</p> <p>S M 1·8 2·4</p> <p>$(x+4)(x+2)$</p>	<p>2. $x^2 + 7x + 12$</p> <p>S M 1·12 2·6 3·4</p> <p>$(x+3)(x+4)$</p>	<p>3. $x^2 + 10x + 21$</p> <p>1·21 3·7</p> <p>$(x+3)(x+7)$</p>
<p>4. $x^2 - 5x + 6$</p> <p>1·6 2·3</p> <p>$(x-2)(x-3)$</p>	<p>5. $x^2 - 7x + 10$</p> <p>1·10 2·5</p> <p>$(x-2)(x-5)$</p>	<p>6. $x^2 - 8x + 7$</p> <p>1·7</p> <p>$(x-1)(x-7)$</p>

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$7. x^2 + 2x - 15$ <p style="text-align: center;"> $\begin{matrix} 5 & 15 \\ \checkmark & \checkmark \\ 3 & 5 \end{matrix}$ </p> $(x+5)(x-3)$	$8. x^2 + x - 20$ <p style="text-align: center;"> $\begin{matrix} 5 & 20 \\ \checkmark & \checkmark \\ 4 & 5 \end{matrix}$ </p> $(x+5)(x-4)$	$9. x^2 + 6x - 16$ <p style="text-align: center;"> $\begin{matrix} 2 & 16 \\ \checkmark & \checkmark \\ 4 & 4 \end{matrix}$ </p> $(x+8)(x-2)$
$10. x^2 - 3x - 10$ <p style="text-align: center;"> $\begin{matrix} 2 & 10 \\ \checkmark & \checkmark \\ 2 & 5 \end{matrix}$ </p> $(x+2)(x-5)$	$11. x^2 - 10x - 24$ <p style="text-align: center;"> $\begin{matrix} 2 & 24 \\ \checkmark & \checkmark \\ 2 & 12 \\ 3 & 8 \\ 4 & 6 \end{matrix}$ </p> $(x+2)(x-12)$	$12. x^2 - 8x - 9$ <p style="text-align: center;"> $\begin{matrix} 1 & 9 \\ \checkmark & \checkmark \\ 3 & 3 \end{matrix}$ </p> $(x+1)(x-9)$
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<p>13. $x^2 - 4x - 21$</p> <p>1 21 3 7</p> <p>$(x+3)(x-7)$</p>	<p>14. $x^2 + x - 72$</p> <p>1 72 2 36 3 24 4 18 6 12 8 9</p> <p>$(x+9)(x-8)$</p>	<p>15. $x^2 + 3x + 2$</p> <p>1 2</p> <p>$(x+1)(x+2)$</p>	
<p>16. $2x^2 - 6x - 20$</p> <p>1 10 2 5</p> <p>$2(x^2 - 3x - 10)$</p> <p>$2(x+2)(x-5)$</p>	<p>17. $3x^2 + 18x + 24$</p> <p>1 8 2 4</p> <p>$3(x^2 + 6x + 8)$</p> <p>$3(x+2)(x+4)$</p>	<p>18. $5x^2 + 10x - 75$</p> <p>1 15 3 5</p> <p>$5(x^2 + 2x - 15)$</p> <p>$5(x-3)(x+5)$</p>	
<p>$3(x^2 + 4x + 2x + 8)$</p> <p>$3(x^2 + 6x + 8)$</p> <p>$3x^2 + 18x + 24$</p>			<p>Created with Doceri </p>

Factor.

1. $y^2 - 4y + 3$

2. $d^2 + 17d + 72$

3. $b^2 + 44b - 45$

8. $y^2 + 7y + 10$

9. $t^2 - 3t - 10$

10. $z^2 - 12z + 20$

11. $7b^2 - 7b - 14$

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4. $y^2 - 69y - 70$

5. $g^2 - 12g + 35$

6. $c^2 + 5c - 6$

7. $d^2 - 6d - 40$

12. $y^2 + y - 20$

13. $p^2 + 10p + 21$

14. $p^2 - 6p + 5$

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15. $z^2 + 15z + 14$

16. $x^2 - 3x - 4$

17. $w^2 + 7w + 6$

18. $2x^2 - 26x + 24$

23. $k^2 + 4k - 5$

24. $r^2 - 5r + 6$

25. $a^2 + 6a - 27$

26. $a^2 - 5a - 14$

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19. $h^2 - 2h - 8$

20. $3a^2 + 9a + 6$

21. $k^2 + 11k + 24$

22. $5w^2 + 10w - 15$

27. $x^2 - 15x + 56$

28. $p^2 - 19p + 88$

29. $g^2 + 12g + 35$

30. $x^2 - 13x + 40$

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Classwork

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