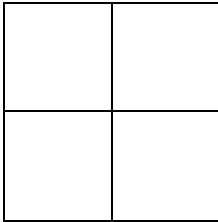
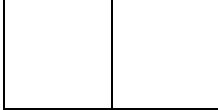
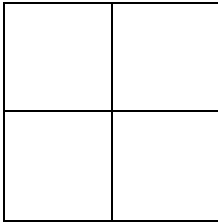
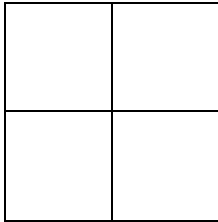
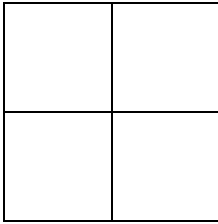
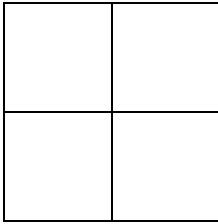
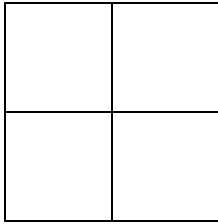


21.3a Worksheet Factoring Special Cases 1: Perfect Square Trinomials

Name _____ date _____ per ____

Multiply by using the Generic Rectangles. Write the answer as a sum.

| | | |
|---|---|---|
| <p>1. $(x - 11)^2 =$ $(x - 11)(x - 11)$</p> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="margin-right: 10px;">x</div> <div style="margin-right: 10px;">$- 11$</div> </div> <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">x</div>  </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="margin-right: 10px;">$- 11$</div>  </div> <p>Sum: _____</p> | <p>2. $(x + 10)^2 =$ $(\underline{\hspace{2cm}})(\underline{\hspace{2cm}})$</p>  <p>Sum: _____</p> | <p>3. $(x - 25)^2 =$ $(\underline{\hspace{2cm}})(\underline{\hspace{2cm}})$</p>  <p>Sum: _____</p> |
| <p>4. $(x + 1.2)^2 =$</p>  <p>Sum: _____</p> | <p>5. $(2x - 3)^2 =$</p>  <p>Sum: _____</p> | <p>6. $(3x + 5)^2 =$</p>  <p>Sum: _____</p> |

Now, multiply each binomial squared **without** using Generic Rectangles.

Use one of these formulas: $(a + b)^2 = a^2 + 2ab + b^2$ or $(a - b)^2 = a^2 - 2ab + b^2$

For example: $(x - 7)^2 = (x)^2 - 2(x)(7) + (7)^2 = x^2 - 14x + 49$

7. $(x - 6)^2$

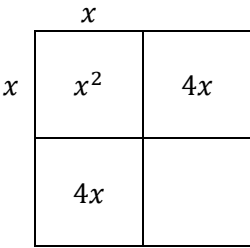
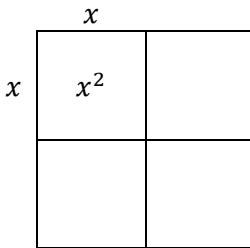
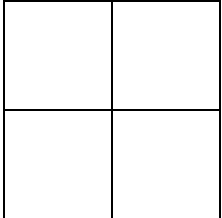
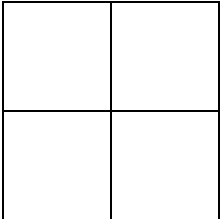
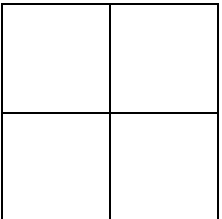
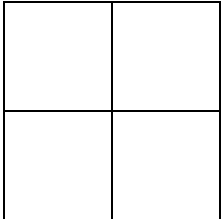
8. $(x - 13)^2$

9. $(2x + 1)^2$

10. $(3x - 5)^2$

(Turn over for the rest of the assignment)

Factor by using the Generic Rectangles. Write the answer as a sum and a product.

| | | |
|---|---|---|
| <p>11. $x^2 + 8x + 16 =$ $x^2 + 4x + 4x + 16$</p>  <p>$x^2 + 8x + 16 = (\quad)^2$</p> | <p>12. $x^2 - 44x + 484 =$</p>  <p>$x^2 - 44x + 484 = (\quad)$</p> | <p>13. $x^2 + 2x + 1 =$</p>  |
| <p>14. $4x^2 - 12x + 9 =$</p>  | <p>15. $100x^2 + 20x + 1 =$</p>  | <p>16. $9x^2 - 30x + 25 =$</p>  |

Now, factor each perfect square trinomial **without** Generic Rectangles.

For example: $x^2 - 14x + 49 = (x)^2 - 2(x)(7) + (7)^2 = (x - 7)^2$

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

18. $x^2 + 28x + 196$

19. $25x^2 - 10x + 1$

20. $16y^2 + 88x + 121$

21. $36x^2 - 84x + 49$

22. $4y^2 + 36yz + 81z^2$