Name: _____ Date: _____

Fresh Math

Expanded Equation Circle - Medium

Complete the square to write each equation in standard form.

1. $x^2 + y^2 + 2y = 0$

2. $x^2 + y^2 + 8x - 33 = 0$

3. $x^2 + y^2 - 6x + 16y + 48 = 0$

4. $x^2 + y^2 - 4x + 14y + 28 = 0$

5. $x^2 + y^2 + 2x + 12y + 33 = 0$

6. $x^2 + y^2 + 6x - 18y - 10 = 0$

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Expanded Equation Circle - Medium

Complete the square to write each equation in standard form.

7. $x^2 + y^2 - 12x - 4y + 31 = 0$

8. $x^2 + y^2 + 6x - 12y - 19 = 0$

9. $x^2 + y^2 + 2x - 4y + 4 = 0$

10. $x^2 + y^2 - 18x + 4y + 60 = 0$

11. $x^2 + y^2 - 18x + 12y + 81 = 0$

12. $x^2 + y^2 - 4y + 3 = 0$

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Expanded Equation Circle - Medium

Complete the square to write each equation in standard form.

13. $x^2 + y^2 + 4x - 2y - 4 = 0$

14. $x^2 + y^2 + 10x + 14y + 58 = 0$

15. $x^2 + y^2 - 2x - 16y + 61 = 0$

16. $x^2 + y^2 + 6x - 4y - 51 = 0$

Expanded Equation Circle - Medium - Answer Key

1. $x^2 + y^2 + 2y = 0$

   $x^2 + (y + 1)^2 = 1$

2. $x^2 + y^2 + 8x - 33 = 0$

   $(x + 4)^2 + y^2 = 49$

3. $x^2 + y^2 - 6x + 16y + 48 = 0$

   $(x - 3)^2 + (y + 8)^2 = 25$

4. $x^2 + y^2 - 4x + 14y + 28 = 0$

   $(x - 2)^2 + (y + 7)^2 = 25$

5. $x^2 + y^2 + 2x + 12y + 33 = 0$

   $(x + 1)^2 + (y + 6)^2 = 4$

6. $x^2 + y^2 + 6x - 18y - 10 = 0$

   $(x + 3)^2 + (y - 9)^2 = 100$

Expanded Equation Circle - Medium - Answer Key

7. $x^2 + y^2 - 12x - 4y + 31 = 0$

   $(x - 6)^2 + (y - 2)^2 = 9$

8. $x^2 + y^2 + 6x - 12y - 19 = 0$

   $(x + 3)^2 + (y - 6)^2 = 64$

9. $x^2 + y^2 + 2x - 4y + 4 = 0$

   $(x + 1)^2 + (y - 2)^2 = 1$

10. $x^2 + y^2 - 18x + 4y + 60 = 0$

    $(x - 9)^2 + (y + 2)^2 = 25$

11. $x^2 + y^2 - 18x + 12y + 81 = 0$

    $(x - 9)^2 + (y + 6)^2 = 36$

12. $x^2 + y^2 - 4y + 3 = 0$

    $x^2 + (y - 2)^2 = 1$

Expanded Equation Circle - Medium - Answer Key

13. $x^2 + y^2 + 4x - 2y - 4 = 0$

    $(x + 2)^2 + (y - 1)^2 = 9$

14. $x^2 + y^2 + 10x + 14y + 58 = 0$

    $(x + 5)^2 + (y + 7)^2 = 16$

15. $x^2 + y^2 - 2x - 16y + 61 = 0$

    $(x - 1)^2 + (y - 8)^2 = 4$

16. $x^2 + y^2 + 6x - 4y - 51 = 0$

    $(x + 3)^2 + (y - 2)^2 = 64$