

Algebra 2 Summer 2019 Assignment

Name: _____

*Please complete the following Algebra 1 review problems using your prior knowledge and the video links below as needed.***Part I. Expressions and Equations**Polynomial operations (#1, #2): <https://www.youtube.com/watch?v=Gp2dLnaPr7o>Multiplying binomials (#3, #4): <https://www.youtube.com/watch?v=W-X4SSeljsY>Squaring a binomial (#5): <https://www.youtube.com/watch?v=l7ivdpf4XnQ>Solving equations with variables on each side (#6-#8): <https://www.youtube.com/watch?v=zYx4QtAguXc>

1. Simplify $4y + 6x - 3(x - 2y)$	2. Simplify $5(x^2 - 9x) - 2(3x + 4) + 7$
3. Simplify $2(x - 3)(x + 2)$	4. Simplify $(5x + 8)(4x + 1)$
5. Simplify $(x + 4)^2$	6. Solve $4(-3x + 1) = -10(x - 4) - 14x$
7. Solve $2x + 11 = 15 - 6x$	8. Solve $5x - 3 = 2(x + 3)$

Part II. FunctionsEvaluating functions at a value (#9, #10): <https://www.youtube.com/watch?v=Ehkzu5Uv7O0&spfreload=1>Domain and range (#11, 12): <https://www.youtube.com/watch?v=IldrZitA6JE>9. Find the value of $f(-2)$ for $f(x) = -x + 7$ 10. Find the value of $f(2)$ for $f(x) = 2x^2 + 6x - 5$

11. Identify the domain and range of the function below.

x	y
0	-1
2	0
4	1
6	2
8	3

Domain:

Range:

12. Identify the domain and range of $f(x) = x^2 - 4$

Domain:

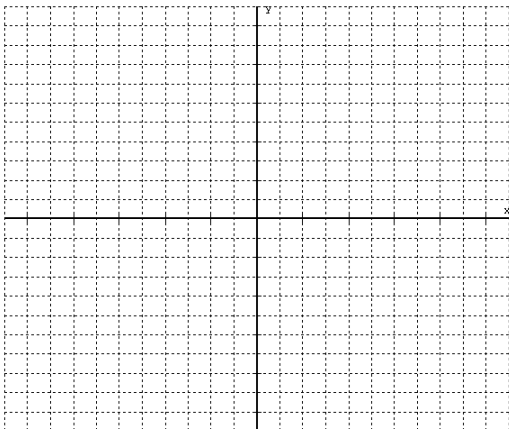
Range:

Algebra 2 Summer 2019 Assignment

Name: _____

Part III. FunctionsGraphing lines in slope-intercept form (#13): <https://www.youtube.com/watch?v=eDf9Kxh3XAA>Graphing vertical and horizontal lines (#14, #16): <https://www.youtube.com/watch?v=iSgftOjXlfw>Graphing lines in standard form (#15): <https://www.youtube.com/watch?v=MVDtL7GCJmk>

13. Graph $y = -\frac{2}{3}x + 2$

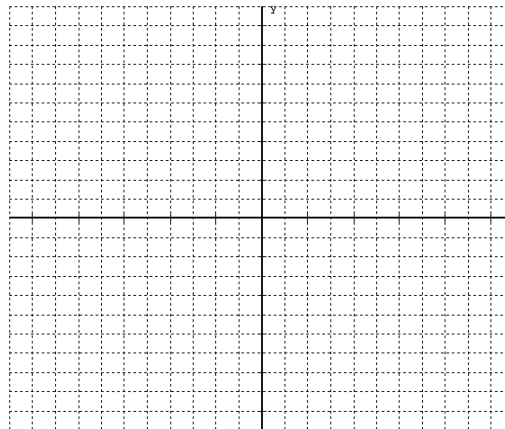


x-intercept:

y-intercept:

slope:

14. Graph $y = -3$

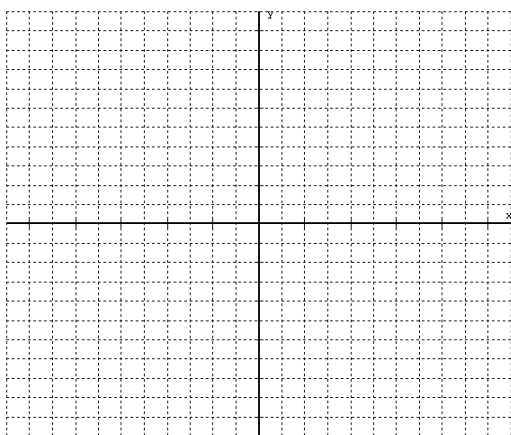


x-intercept:

y-intercept:

slope:

15. Graph $5x - 2y = 10$

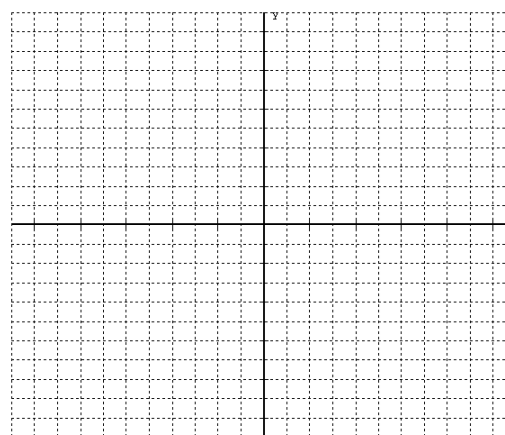


x-intercept:

y-intercept:

slope:

16. Graph $x = 4$



x-intercept:

y-intercept:

slope:

Part IV. Polynomial Factoring and EquationsFactoring the difference of two squares (#17-#19): <https://www.youtube.com/watch?v=0yBDsZvfT0g>Factoring trinomials (#20): <https://www.youtube.com/watch?v=55wm2c1xkp0>Solving quadratic equations by factoring (#21-24): <https://www.youtube.com/watch?v=zc2CpyRtjvY>

17. Factor $x^2 - 121$	18. Factor $16x^2 - 9$
19. Factor $5x^3 - 245x$	20. Factor $2x^2 + 7x + 3$
21. Solve $4x^2 - 25 = 0$	22. Solve $2x^2 - 4x - 8 = -x^2 + x$
23. Solve $x^2 + 9x + 14 = 0$	24. Solve $2x^2 - 3x = 8$

Part V. Operations with FractionsSimplifying fractions (#25, #26): <https://www.youtube.com/watch?v=nVri1tpH3cl>Operations with fraction (#27-#30): <https://www.youtube.com/watch?v=ro6yRADn3Mw>

25. Simplify $\frac{4x}{20}$	26. Simplify $\frac{-18x^2}{12x}$
27. $\frac{2}{3} + \frac{5}{7}$	28. Simplify $\frac{700}{9} \cdot \frac{27}{70}$
29. Simplify $\frac{23}{5} - \frac{5}{6}$	30. Simplify $\frac{1500}{7} \div \frac{27}{70}$