

In order to help you retain what you learned this year, please complete this packet over the summer. If you do not remember how to do something, "YouTube" the topic and give yourself a refresher. *SHOW ALL WORK NECESSARY TO COMPLETE THE PROBLEM.*

DUE DATE: Friday, September 2, 2016.

Solving Equations & Inequalities

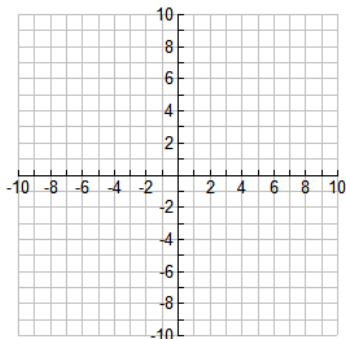
1. Solve for x. $3(x - 3) + 7 = -2x - 6$ **1.** _____

2. Solve for x. $\frac{3x+1}{8} = \frac{2x}{7}$ **2.** _____

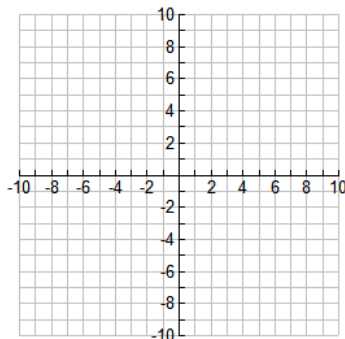
3. Solve for x. $4 - 5x < 2x + 3$ **3.** _____

Graphing Linear Equations and Inequalities

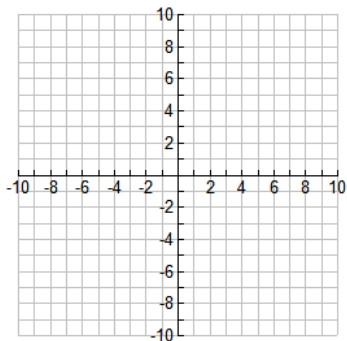
4. Graph $y = -\frac{2}{3}x + 4$



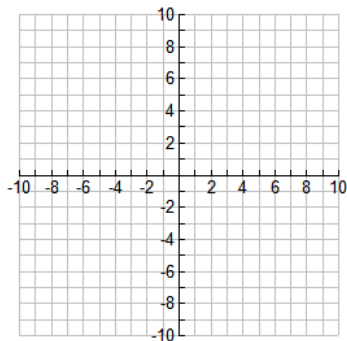
5. Graph $3x + 4y = 12$



6. Graph $x < 6$



7. Graph $2x - 5y \leq 8$



Simplifying Radicals (No decimal answers!!)

8. Simplify $\sqrt{24}$

8. _____

9. Simplify $\sqrt{54x^2y^6}$

9. _____

10. Simplify $\sqrt[3]{27x^3y^5}$

10. _____

11. Simplify $\sqrt{-18}$

11. _____

Basic Operations with Fractions (Do NOT use a calculator!!)

12. $\frac{3}{8} + \frac{5}{7}$

13. $\frac{2}{9} - \frac{1}{12}$

14. $\frac{4}{5} \cdot \frac{7}{2}$

12. _____

13. _____

14. _____

15. $\frac{6}{11} \div \frac{3}{5}$

16. $\frac{2}{3x} + \frac{9}{x}$

17. $\frac{5}{x} - \frac{2}{x^2}$

15. _____

16. _____

17. _____

Long Division

18. $3\overline{)527}$

19. $12\overline{)3761}$

18. _____

19. _____

Simplify:

20. $\frac{4}{0}$

21. 4^0

20. _____

21. _____

22. Change $5\frac{2}{7}$ to an improper fraction.

22. _____

Factor:

23. $5x + 20$

24. $x^2 - 16$

25. $x^4 - 3x^3 - 18x^2$

23. _____

24. _____

25. _____

26. $3x^2 - x - 10$

27. $2x^2 - 10x - 48$

28. $9x^2 - 25y^2$

26. _____

27. _____

28. _____

Rationalize the Denominator (and simplify if necessary)

29. $\frac{3}{\sqrt{5}}$

30. $\frac{2}{3\sqrt{6}}$

29. _____

30. _____

Simplify using Properties of Exponents

31. $\frac{(2x^2y^3)^3}{6x^{-2}y^5}$

32. $\frac{5xy^{-2}z}{x^3} \cdot \frac{2xyz}{15y^2z^3}$

31. _____

32. _____

Functions:

If $f(x) = -3x^2 - 5x + 2$ and $g(x) = 2x - 1$, find the following:

33. $f(-2)$

34. $g\left(\frac{1}{3}\right)$

33. _____

34. _____

35. $f(x) - g(x)$

36. $f(x) \cdot g(x)$

35. _____

36. _____

37. $g(f(x))$

37. _____