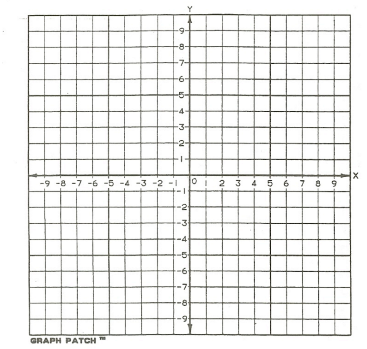
Name_____ **Algebra 1 Review**

No calculators! Show all work!
Clearly state your final answer on the lines provided.
There will be a quiz on this material the first week of school.

1. **Graph 3x + 2y = 6.**



2. **Simplify** $\sqrt{98}+\sqrt{72}$**.**

2._____

3. **Factor** $9x^2-64y^2$**.**

3._____

4. **Solve** $24x^2-13x-45=0$**.**

4._____

5. **Write the equation of a line passing through (- 3, - 1) and (1, - 4).**

5._____

6. Solve $\begin{aligned} 3x + 4y &= 2 \\ 5x + 9y &= 1 \end{aligned}$

6._____

7. Solve $\frac{5}{y-5} - \frac{3}{y+5} = \frac{2}{y}$.

7._____

8. Simplify $\frac{(2p^{-2}q)^{-3}(2pq^3)^4}{p^3q^{-5}}$. **Leave no negative exponents.**

8._____

9. Simplify $\frac{x^2+3x-10}{2x+6} \div \frac{x^2-4}{x^2-x-12}$.

9._____

10. Solve $(x+2)(x-4) = 16$.

10._____

11. Solve $3 - x = \sqrt{x^2 - 3}$.

11. _____

12. Subtract $\frac{2}{x^2 - 16} - \frac{x - 3}{x^2 - 9x + 20}$.

12. _____

13. Solve $x^2 + 3x = 5$.

13. _____

14. Expand $(3p - 4q^2)^2$.

14. _____

15. Solve for m: $\frac{1}{t} = \frac{1}{m} - \frac{1}{n}$.

15. _____

16. Explain why $\sqrt{31}$ is between 5 and 6.

17. Solve for x: 5[2(3 -x)-1]< 27

Answers:

2. $13\sqrt{2}$

3. $(3x-8y)(3x+8y)$

4. $\left\{5, -\frac{9}{8}\right\}$

5. $y=-\frac{3}{4}x-\frac{13}{4}$

6. $(2,-1)$

7. $\left\{-\frac{5}{4}\right\}$

8. $2p^7q^{14}$

9. $\frac{(x+5)(x-4)}{2(x+2)}$

10. $\{-4,6\}$

11. $\{2\}$

12. $\frac{-x^2+x+2}{(x+4)(x-4)(x-5)}$ **or** $\frac{-(x-2)(x+1)}{(x+4)(x-4)(x-5)}$

13. $\left\{\frac{-3\pm\sqrt{29}}{2}\right\}$

14. $9p^2-24pq^2+16q^4$

15. $\left\{\frac{nt}{n+t}\right\}$

16. Explain in your own words.

17. x > -1/5