Geometry—Algebra Review HW #_____ Name_____
Exponents ***Show all work on your own paper.***
A10

Simplify completely using the exponent rules. Answers should contain positive exponents only.

1. $(3x)^3 \cdot x$
2. $\left(x^2 y^3\right)^4$
3. $-7x^5y^2 \cdot 8x^4 y$
4. $\left(-5x^2\right)^3 \cdot \left(y^3\right)^2$
5. $\left(\frac{-2}{x^5 y}\right)^4$
6. $\frac{4x^3 y}{10x^2 y^6}$
7. $\left(\frac{-2x^3 y^4}{3x^9 y}\right)^3$
8. $\frac{36x^8 y^2}{x^7 y} \cdot \frac{xy^2}{6x^3}$
9. $\frac{6x^2 y^2}{x y^3} \cdot \frac{\left(3x^2 y\right)^2}{2x y^2}$
10. $\frac{2x^{-3} y^4}{3x y^{-1}}$
11. $\frac{5x^{-3} y^2}{x^5 y^{-1}} \cdot \frac{x^{-2} y^{-6}}{25xy}$
12. $\left(2x^{-4} y^3\right)^{-2}$

Review. Write the answers in slope-intercept form.

13. Use slope-intercept form to write the equation of a line that passes through (-8, 4) and is perpendicular to the line $y = \frac{-2}{3}x - 5$.
14. Use point-slope form to write the equation of a line that passes through (7, 8) and (3, 12).

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