Geometry—Algebra Review HW#_____ Name_____
Cumulative Review A30R

Period_____ Date_____

Show work neatly. Give all answers in simplest form (no decimals).

1. Solve for x: $4x - 7(2x - 13) = -5(x + 3) + 1$	2. Solve for x and graph the solution on a number line: $\frac{-2}{3}x - 4 < -12$ *or* $5x + 3 < 45$
3. Solve for (x, y): $x + 2y = 5$ $3x + 5y = 11$	4. Simplify: $\frac{\left(2x^5 y^{-2}\right)^3}{18x^7 y^2}$
5. Multiply and simplify: $(5x - 9)(3x + 7)$	6. Multiply and simplify: $\left(8x^2 - 7\right)\left(8x^2 + 7\right)$
7. Factor completely: $2x^3 + 4x^2 - 96x$	8. Factor completely: $6x^2 + 23x + 20$
9. Factor completely: $225x^2 - 16$	10. Factor completely: $3x^2 - 42x + 147$
11. Factor completely: $12x^3 + 18x^2 + 14x + 21$	12. Solve by factoring: $x^2 - 7x - 60 = 0$

13. Solve by factoring: $9x^2 + 3x = 2$

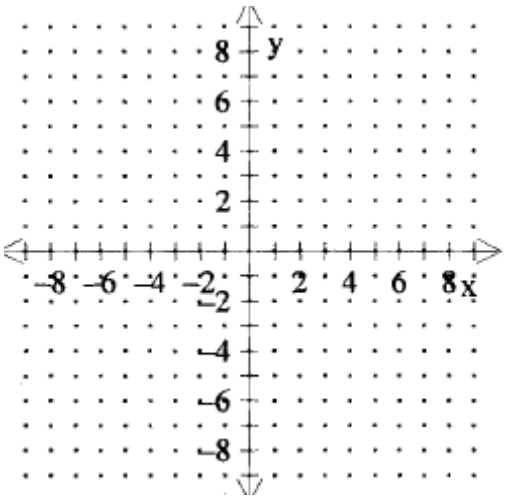
14. Solve using square roots: $6x^2 = 192 - 2x^2$

15. Solve by quadratic formula:
$5x^2 = -10x + 5$

16. Solve by completing the square:
$x^2 - 16x - 225 = 0$

17. Use any method you wish to write the equation of the line described, but <u>write your final answer in slope-intercept form.</u>
The line is parallel to $y = -5x + 2$ and contains the point (2, -4).

18. Graph: $3x - 5y = -15$



19. <u>Write an equation and use it to solve the problem.</u>
The base of a parallelogram is twice as long as its height. The area of the parallelogram is 392 cm^2. Find the base and height.

Selected answers: 1. 21 2. $x > 12$ *or* $x < \frac{42}{5}$ 3. (-3, 4) 4. $\frac{4x^8}{9y^8}$ 12. 12, -5 13. $\frac{-2}{3}, \frac{1}{3}$

14. $\pm 2\sqrt{6}$ 15. $-1 \pm \sqrt{2}$ 16. 25, -9 17. $y = -5x + 6$ 18. base = 28 cm, height = 14 cm