Geometry—Algebra Review HW#_____ Name_____
Cumulative Review A31R

Period_____ Date_____

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

20. Solve for x: $\frac{5+x}{2} - 4 = \frac{6x+2}{5}$	21. Solve for x and graph the solution on a number line: $-12 \le 5x - 2 \le 33$
22. Solve for (x, y): $2x - 8y = 24$ $3x + 5y = 2$	23. Simplify: $\frac{4x^3 y^{-5}}{3x^8 y^2} \cdot \frac{9x^2 y^6}{10x^{-7} y^3}$
24. Multiply and simplify: $(4x+9)^2$	25. Multiply and simplify: $(4x^2-3)(6x^2+9x-8)$
26. Factor completely: $3x^2 - 16x + 5$	27. Factor completely: $50x^2 - 40x - 120$
28. Factor completely: $45x^3 - 500x$	29. Factor completely: $4x^3 + 16x^2 - 25x - 100$
30. Solve by factoring: $5x^3 - 17x^2 + 14x = 0$	31. Solve by factoring: $18x^2 + 12x + 2 = 0$

32. Solve using square roots:

$4(3x+1)^2 - 6 = 138$

33. Solve by quadratic formula:

$12x^2 - 28x + 15 = 0$

34. Solve by completing the square:

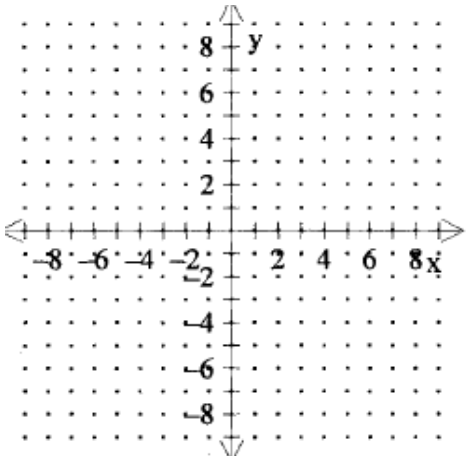
$2x^2 + 60x + 350 = 0$

35. Solve by completing the square:

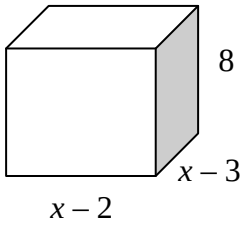
$3x^2 - 42x + 3 = 0$

36. 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 contains the points (-2, 6) and (-4, 3)

37. Graph: $2x + 6y > 18$



38. <u>Write an equation and use it to solve the problem.</u>
The volume of the box shown is 160 units^3. Find the value of x.



Selected answers: 20. $\frac{-19}{7}$ 21. $-2 \le x \le 7$ 22. (4, -2) 23. $\frac{6x^4}{5y^4}$ 25. $24x^4 + 36x^3 - 50x^2 - 27x + 24$

30. $0, \frac{7}{5}, 2$ 31. $\frac{-1}{3}$ 32. $\frac{-7}{3}, \frac{5}{3}$ 33. $\frac{3}{2}, \frac{5}{6}$ 34. $-15 \pm 5\sqrt{2}$ 35. $7 \pm 4\sqrt{3}$ 36. $y = \frac{3}{2}x + 9$ 38. 7