Algebra 1 Review Name_____ ID: 1

Assignment Date_____ Period____

**Solve each equation.**

1) $-96 = 3(6x - 2)$

2) $25 - 7m = -5(7m - 5)$

3) $7(5x - 3) = -6x + 2(3x + 7)$

4) $-\frac{27}{10} = \frac{2}{5}k - \frac{7}{4}k$

**Solve each equation for the indicated variable.**

5) $z = -b + \frac{m}{a}$, for $a$

6) $zm = \frac{a + b}{a}$, for $a$

**Solve each compound inequality.**

7) $-14 \le n - 9 \le -13$

8) $-2 < -1 - x < 8$

**Write the slope-intercept form of the equation of the line through the given points.**

9) through: $(0, -4)$ and $(-4, 4)$

10) through: $(3, -4)$ and $(-2, -4)$

**Simplify. Your answer should contain only positive exponents.**

11) $\frac{3x^2y^2}{3x^3y^0 \cdot x^{-1}}$

12) $\frac{2m^{-2}n^{-3}}{m^3n^0 \cdot 2m^2n^{-1}}$

13) $x^{-4}y^{-3} \cdot (2x^{-4}y^4)^{-4}$

14) $2m^3 \cdot (m^3)^3$

**Factor the common factor out of each expression.**

15) $3vu^4 + 12v^4 - 24v^2$

16) $14v^3 + 8u + 8$

**Factor each completely.**

17) $x^2 - 13x + 36$

18) $v^2 + 13v + 36$

19) $3r^2 + 16r - 12$

20) $7a^2 - 38a - 24$

**Solve each equation by factoring.**

21) $r^2 = 8 + 2r$

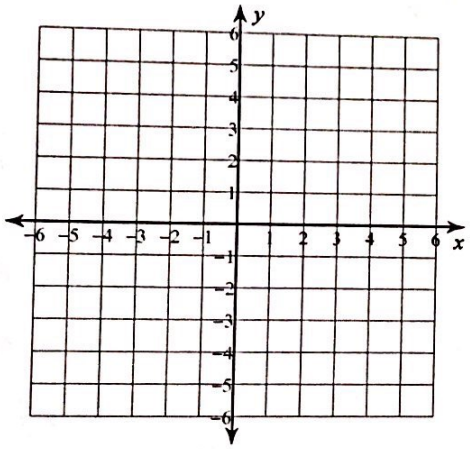
22) $6x^2 = -36x$

23) Eugene and Sarawong each improved their yards by planting hostas and ornamental grass. They bought their supplies from the same store. Eugene spent $108 on 6 hostas and 8 bunches of ornamental grass. Sarawong spent $87 on 13 hostas and 1 bunch of ornamental grass. What is the cost of one hosta and the cost of one bunch of ornamental grass?

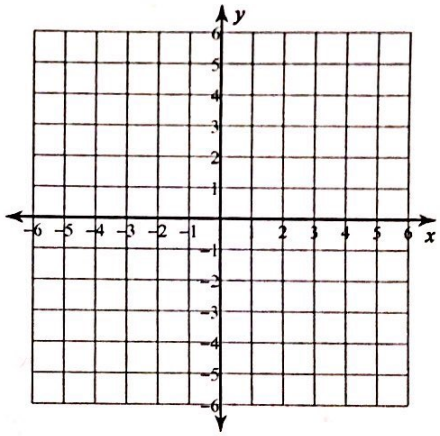
24) Alberto's school is selling tickets to a choral performance. On the first day of ticket sales the school sold 12 senior citizen tickets and 2 student tickets for a total of $70. The school took in $125 on the second day by selling 11 senior citizen tickets and 14 student tickets. What is the price each of one senior citizen ticket and one student ticket?

**Sketch the graph of each line.**

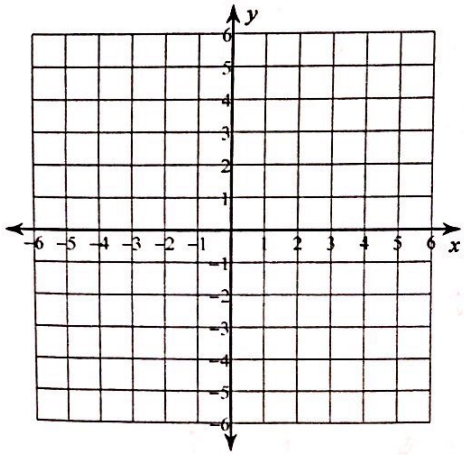
25) $8x - 3y = -9$



26) $x + 5y = 10$



27) $y = -\frac{1}{2}x$



28) $y = x + 3$