Honors Algebra 2 – Unit #1 Day #5 Name_____
Homework – Solving Equations

Solve the Following Equations. You do not need a calculator to complete any of these problems.

1. $4(x - 1) - 2(3x + 5) = -3x - 1$

2. $\frac{3x - 1}{2} + \frac{2x + 3}{5} + \frac{5x - 2}{3} = 4$

3. $64x^2 - 6 = 55$

4. $2(3x + 4)^2 - 5 = 45$

5. $\frac{3}{4}|8x - 1| + 15 = 9$

6. $-2|3x - 7| + 6 = 10x - 8$

Honors Algebra 2 – Unit #1 Day #5 Name_____
Homework – Solving Equations

7. $\left|\frac{3x - 4}{2}\right| + 5 \leq 8$

8. $\frac{5}{9}\left|\frac{4}{3}x - 3\right| - 8 > 2$

Factor the following:

9. $6x^2y^3 + 9xy^4 + 18y^5$

10. $75x^2 - 48y^2$

11. $5x^2 - 65x + 180$

12. $4x^2 - 11x + 6$

13. $8a^2 - 2a - 3$

14. $32x^2 + 48x + 18$

15. $18x^3 + 21x^2 - 60x$

Honors Algebra 2 – Unit #1 Day #5 Name_____
Homework – Solving Equations

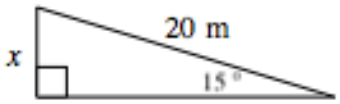
16. Evaluate the following. Let $f(x) = -3x + 2$ and $g(x) = -2x^2 + 5x - 1$.

a. $\dfrac{5f\left(\frac{1}{2}\right)}{-f(g(2) + 1)}$

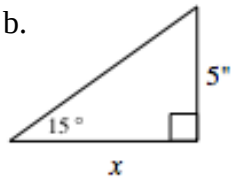
b. $-3g(2x - 1) + 7$

17. For each diagram below, write and solve an equation to find the value of each variable. Give your answer to part (d) as a simplified radical. Hint: Right Triangle Trigonometry

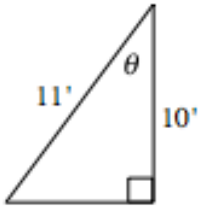
a.



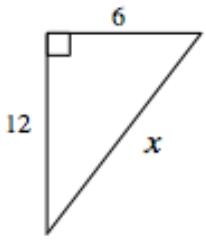
b.



c.



d.

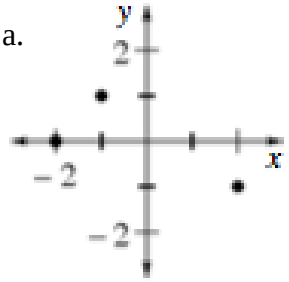


Honors Algebra 2 – Unit #1 Day #5 Name_____
Homework – Solving Equations

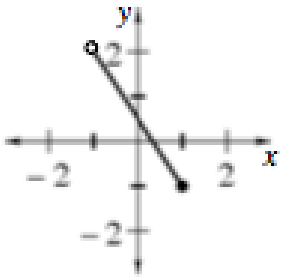
18. The measure of the supplement of an angle is 20 degrees more than three times the measure of the original angle. Find the measures of each angle.

19. Find the domain and the range for each of the following functions.

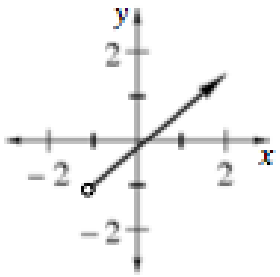
a.



b.



c.



d.