

**Algebra II Honors Midterm Review**

\*\*In addition to doing the problems below, also study all quizzes, tests, notes, and homeworks.

**Chapter 1 Tools of Algebra**

1. Simplify  $33 - 4[3 \cdot (9 - 4)] + 3^2$
2. Evaluate  $-b[a + (c - d)^2]$  if  $a = \frac{1}{2}, b = -4, c = -2, d = 3$ .
3.  $df - 3g = 4h$ ; solve for  $f$
4. solve  $3|x + 6| = -6$
5. Solve  $-x < \frac{3(x + 2)}{5} + x$ . Write answer in interval notation.
6. Evaluate  $-r^2 + 3r + 15$ ; for  $r = -3$
7. Evaluate  $\frac{5(y - 2) + (y + 1)}{2y + 1}$ ; for  $y = -2$
8. Solve  $4 - 3x > 10$ . Write solution in interval notation
9. Solve  $P = 2(AB - 1)$  for  $A$ . State any restrictions on the variables.
10. Solve  $\frac{1}{3}(x + 5) = k$  for  $x$ . State any restrictions on the variables.
11. What is the value of  $|x + 3| + 5x - 7$  for  $x = -9$ ?
12. Simplify by combining like terms  $3(a + 5b) - \frac{7}{2}(2b - a)$
13. Solve inequality  $7 - \frac{3}{2}m \geq 5$ . Write solution in interval notation
14. Solve inequality  $2y + 3 < 3y - 5$ . Write solution in interval notation
15. Solve inequality  $|3x + 2| \leq 5$ . Write solution in interval notation
16. Solve inequality  $2|3x - 5| + 8 > 24$ . Write solution in interval notation
17. Two buses leave Philadelphia at the same time and travel in opposite directions. One bus averages 42mi/h, and the other bus averages 50 mi/h. When will they be 230 mi apart?
18. Solve compound inequality  $-12 \leq 3x + 3 \leq 18$ . Write solution in interval notation.
19. Solve compound inequality  $5t - 1 > 10$  or  $-2t + 5 > 1$ . Write solution in interval notation.