Name_____Per._____Col._____

ALGEBRA 2 HONORS TUNE-UP 11B

SHOW ALL WORK NEATLY ON THIS PAPER. GIVE EXACT ANSWERS IN SIMPLEST FORM. NO CALCULATORS.

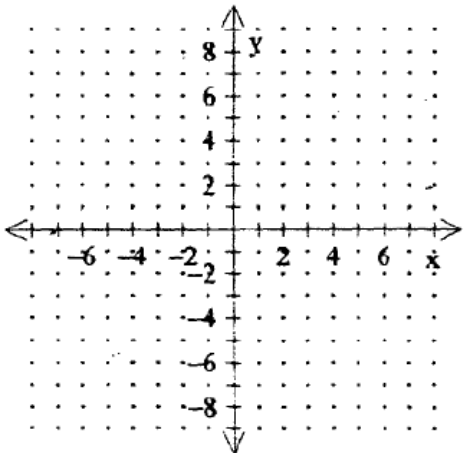
1. Solve $4\left|3x-2\right| \le 28$

2. Find the inverse of $f(x) = \dfrac{16x^4 - 1}{3}$

3. Factor over the integers:
$\left(x^4 + 8x - 9\right)\left(27x^3 - 8\right)$

4. Simplify: $\dfrac{7 \cdot \sqrt[4]{7}}{\sqrt[3]{49}}$

5. Find the vertex of the parabola
$y^2 + 6y + x + 2 = 0$. Graph the parabola.

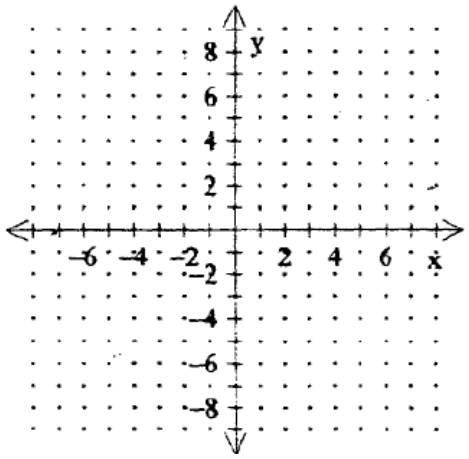


6. If $a = 4 - 2i$ and $b = 3 - 5i$, find:

a) ab

b) $\dfrac{a}{b}$

7. Write in standard form and graph: $4x^2 - 25y^2 - 24x - 100y - 164 = 0$.
Find eccentricity and foci.



8. Write a simplified polynomial function with integer coefficients, given the zeros -3, 4, and 2*i*.

9. Solve over the complex numbers:
$3(2x-5)^2 + 18 = 12$

10. Solve for x: $\log_5(x+2) - \log_5 x = 2$

11. Find the x-intercepts and the maxima/minima of $y = -3x^2 + 6x + 24$

12. Find each sum: (you must know all formulas for the March standards quiz and CST Algebra 2 exam)

a) $\sum_{i=1}^{30} 4 - i$

b) $\frac{1}{7} - \frac{1}{21} + \frac{1}{63} - \frac{1}{189} + \ldots$