

Ms. Chan Algebra 2 Honors Ch. 6 Test

ML Algebra2TestGen: 04/17/08 13:54:41

Page 1

Admin User
Algebra 2

Form Number 1 Name: _____

1. Find all real-number solutions. $x^3 + 6x^2 + 12x + 8 = 0$
2. Add: $(4d^5 + d^3 - 6) + (6d^5 - 3d + 7)$
3. Factor completely with respect to the integers. $2x^4 - 14x^2 + 24$
4. Divide using synthetic division: $(2x^4 - 6x^3 - 24x - 27) \div (x - 4)$
5. Factor: $5x^8 + 15x^6 - 20x^4$
6. Find all rational zeros of the polynomial: $y = x^3 - 14x^2 + 63x - 90$
7. Use synthetic division: $(2x^3 + 6x^2 - 16x + 24) \div (x + 5)$
8. Subtract: $(8x^3 + x) - (3x - 5 + 5x^3)$
9. Solve: $x^4 - 13x^2 + 42 = 0$
10. Simplify: $\frac{4x^3}{y^2} \cdot \frac{y^{-3}x^{-2}}{8x^{-1}}$
11. Evaluate the polynomial when $p = 4$: $5p^3 + 5p^2 - 7p - 14$
12. Factor completely: $18x^4 - 30x^7$

Ms. Chan Algebra 2 Honors Ch. 6 Test

ML Algebra2TestGen: 04/17/08 13:54:41

Page 2

Admin User
Algebra 2

Form Number 1 Name: _____

13. Write a polynomial function of least degree that has real coefficients, the given zeros, and a leading coefficient of 1.
(2, 0), (-2, 0), (1, 0)
14. Divide: $(p^3 + 216) \div (p + 6)$
[A] $p^2 + 36$ [B] $p^2 - 36$ [C] $p^2 + 6p + 36$ [D] $p^2 - 6p + 36$
15. State the left and right behaviors of the graph of $f(x) = -x^3 + x^2 - 7$.
16. Solve for x . $3^3 \cdot 3^x \cdot 3^{x-1} = 3^{12}$
17. Factor completely with respect to the integers. $2x^3 - 3x^2 + 4x - 6$
18. Find all the zeros of the function: $f(x) = 15x^4 - 4x^3 - 18x^2 + 4x + 3$
19. Write the polynomial as a product of linear factors. $x^3 + 3x^2 - 4x - 12$
20. Divide by using long division: $(-2x^2 + 6x^3 - 2 - 13x) \div (3x + 2)$
[A] $2x^2 - 2x - 3 + \frac{4}{3x + 2}$ [B] $2x^2 + 2x + 3 + \frac{4}{3x + 2}$
[C] $2x^2 + 2x + 2 + \frac{2}{3x + 2}$ [D] $2x^2 - 2x - 2 + \frac{2}{3x + 2}$
21. Evaluate the polynomial when $f = 2$: $7f^3 + 4f^2 + 4f - 13$
22. Simplify: $(-4b^3c^6d^2)^2$
23. Use long division: $(5x^4 - 3x^2 + 4) \div (x^2 + 2)$

Ms. Chan Algebra 2 Honors Ch. 6 Test

ML Algebra2TestGen: 04/17/08 13:54:42

Page 3

Admin User
Algebra 2

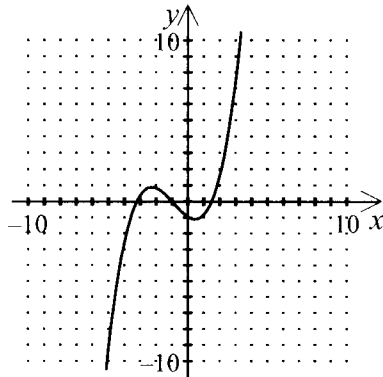
Form Number 1 Name: _____

24. Graph the function $y = x^3 - 4x^2 - x + 4$.

25. One of the zeros of the function $f(x) = x^3 + 5x^2 - 9x - 45$ is $x = -5$, find the other zeros of the function.

26. Solve for x : $x^4 - 12x^2 + 11 = 0$

27. Estimate the real zeros of the function graphed below.



[A] -5, -2, 1, 3

[B] -3, -1, 2

[C] -5

[D] -2, 1, 3

28. Multiply: $(x - 5)(x^2 - 3x - 4)$

29. Use geogebra to graph $f(x) = x^3 + 2x^2 - 5x + 1$. Identify the x-intercepts, local maximums, and local minimums.

30. Find all real zeros of the function. $g(x) = 2x^3 - x^2 - 10x + 5$