Alg 2A Ch 5A

Practice Test **Solutions**

These questions are very similar to those appearing on the Ch 5A Test

Each question's point value on the actual test appears in < >.

Write each function in standard form, classify it by degree and number of terms (fancy names): *<3 ea.>*

1. $y = x^4 + 5 - 2x^3$ — $y = x^4 - 2x^3 + 5$; quartic trinomial
2. $y = 6x^3 + 5x^5 - 12$ — $y = 5x^5 + 6x^3 - 12$; quintic trinomial
3. $y = 7x^2 - 9 + x^4$ — $y = x^4 + 7x^2 - 9$; quartic trinomial

4. Give an example of a linear binomial: *<2>* $y = 3x + 2$

Determine the right end behavior for each polynomial function: *<3 ea.>*

5. $y = x^3 - 3x^2 - x^4$ — $y = -x^4 + 3x - 3x^2$; ↓ down
6. $y = -3x^2 + x^6 + 4$ — $y = x^6 - 3x^2 + 4$; up

Write a polynomial function in factored form with the given zeros: *<4 ea.>*

7. $x = \{-3, -2, 4, 4\}$ — $y = (x+3)(x+2)(x-4)^2$
8. $x = \{-5, 0, 3\}$ — $y = x(x+5)(x-3)$

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-more-

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Find the zeros of each function. State the multiplicity of any multiple zeros: *<4 ea.>*

9. $y = (x + 1)(x - 4)^2$

zeros: $x = \{-1, 4\}$

$x = 4$ is multiplicity 2

10. $y = x^3 - x^2 - 12x \Rightarrow y = x(x^2 - x - 12)$

$y = x(x-4)(x+3)$

zeros: $x = \{0, 4, -3\}$

all multiplicities are 1

Find all solutions (real and imaginary) of each equation: *<5 ea.>*

11. $x^2 - 13x = -36$

$x^2 - 13x + 36 = 0$

$(x - 9)(x - 4) = 0$

$x = \{9, 4\}$

12. $2x^3 + 4x^2 = -6x \quad \div 2 \Rightarrow x^3 + 2x^2 = -3x$

$x^3 + 2x^2 + 3x = 0$

$x(x^2 + 2x + 3) = 0$

$x = 0$

not factorable ... use quad. formula*

* $x^2 + 2x + 3 = 0$

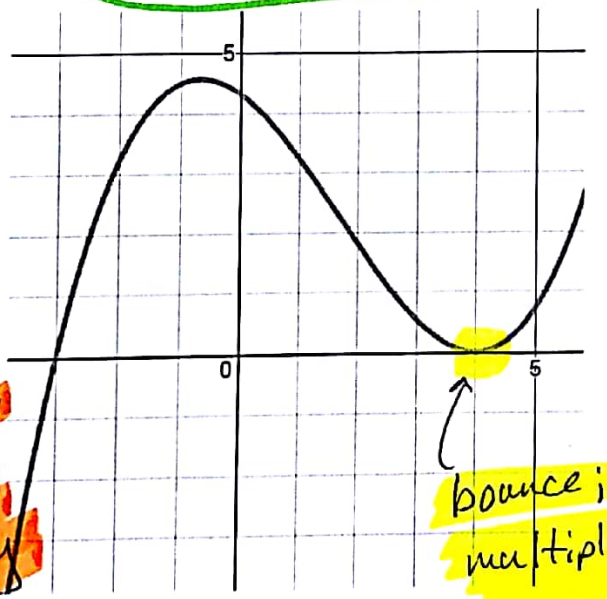
$x = \frac{-2 \pm \sqrt{4 - 12}}{2}$

$x = \frac{-2 \pm 2i\sqrt{2}}{2}$

$x = \{0, -1 \pm i\sqrt{2}\}$

Write an equation of lowest possible degree in factored form for the polynomial function shown below. *<7>*

13.



$y = (x+3)(x-4)^2$

straight through; multiplicity = 1

bounce; multiplicity = 2

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-end-

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