Name _____ Date _____

Mr. Schlansky Algebra II

Writing Equations of Polynomial Equations

State the zeros for the following polynomials

1. $p(x) = (x+2)(x-4)(x+1)$

2. $p(x) = (x-6)(x+3)(x-8)$

3. $p(x) = x(x-6)(x+3)$

4. $p(x) = x(x-1)(x+1)$

5. $p(x) = x(x-7)(x+10)(x-3)$

6. $p(x) = (x-2)(x-3)(x+4)$

7. $p(x) = 2(x+1)(x-4)(x+6)$

8. $p(x) = -3x(x-2)(x-4)(x+7)$

Write a possible polynomial equation in factored for if the zeros are:

9. $\{-4,-2,3\}$

10. $\{6,-7,-2\}$

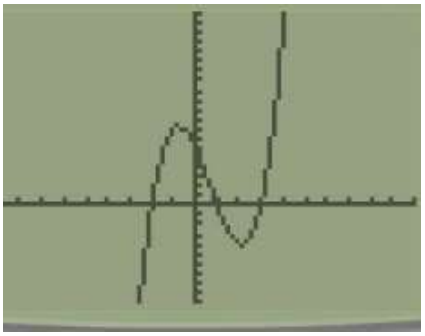
11. $\{0,1,-2,4\}$

12. $\{0,-2,-6,3\}$

13. $\{-7,8,3,\pm 5\}$

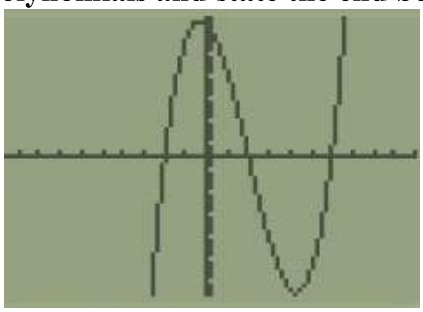
14. $\{0,\pm 4,7\}$

Write a possible equation for each of the following polynomials and state the end behavior

15. 

$x \to -\infty,\ f(x) \to$

$x \to \infty,\ f(x) \to$

16. 

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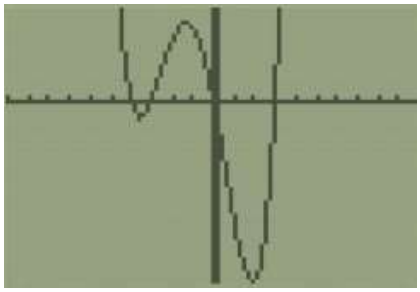
17. 

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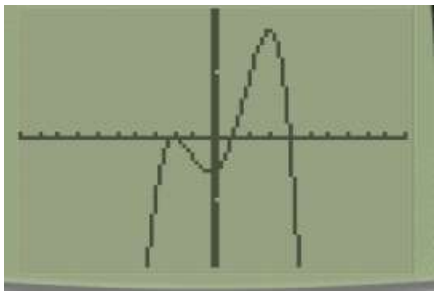
18. 

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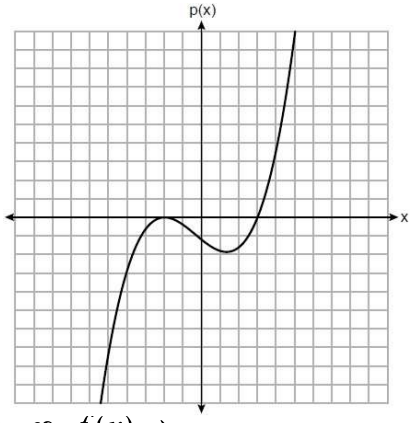
19. 

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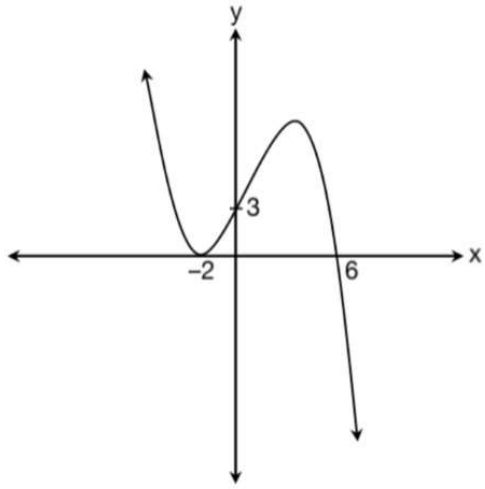
20. 

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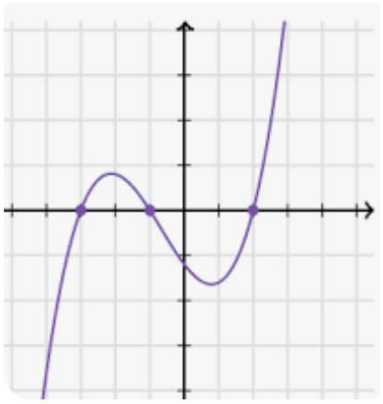
21. 

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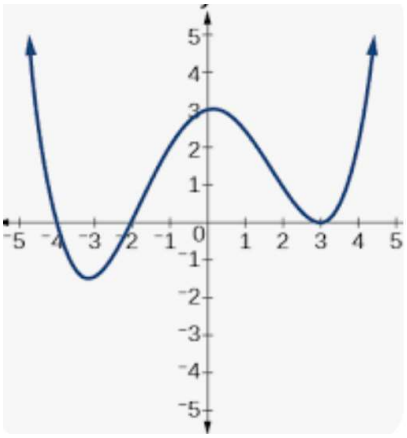
22. 

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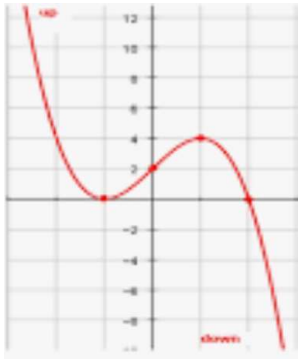
23. 

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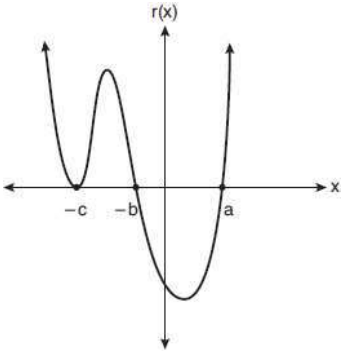
24. 

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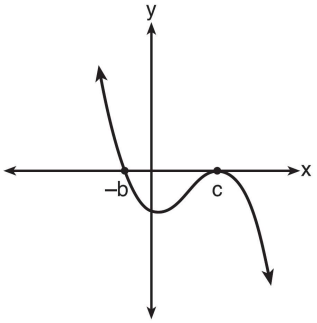
25. 

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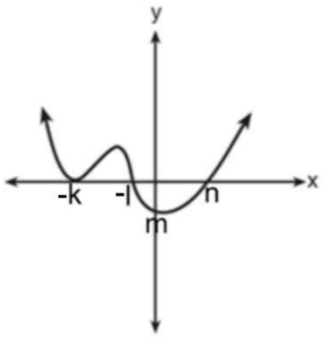
26. 

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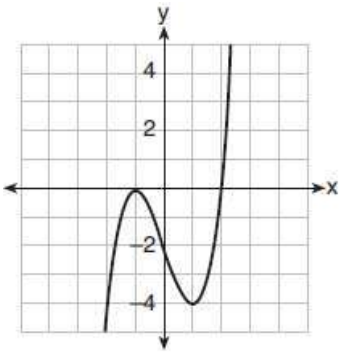
27. Which graph represents a polynomial function that contains $x^2 + 2x + 1$ as a factor?

1)



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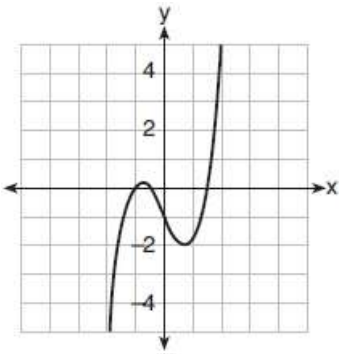

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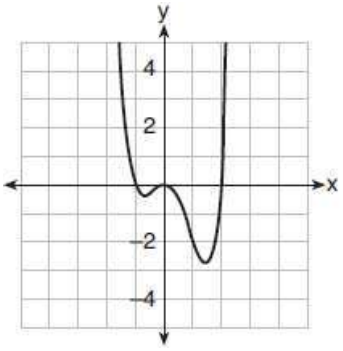

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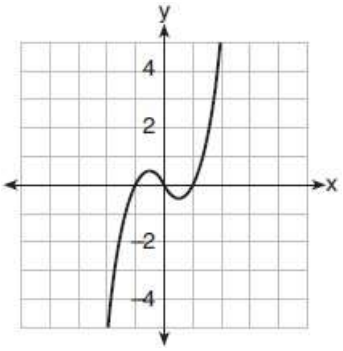
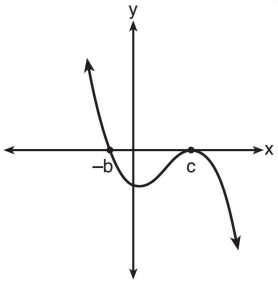
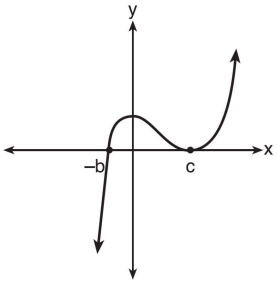


28. If a, b, and c are all positive real numbers, which graph could represent the sketch of the graph of $p(x) = -a(x+b)\left(x^2 - 2cx + c^2\right)$?

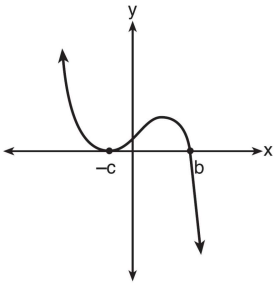
1)



3)



2)



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