Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Accel Geom/Adv Alg

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_\_\_\_\_\_ 11.1/11.2 Finding Zeros

List the possible rational roots for the following polynomial functions.

1. $x^{4}+3x^{3}-2x^{2}+6x-18$ 2. $3x^{3}-6x^{2}+12$

Impress me! Sketch a graph of a polynomial function given the following zeros.

3. 4, 4, 0 4. -2, -2, -2, 5

 

Find the roots of the polynomial functions.

5. $-3x^{3}+3x^{2}+90x=0$ 6. $12x^{3}-20x^{2}+21x-35=0$

7. $y=x^{3}+x^{2}-3x-3$ 8. $x^{5}+3x^{4}-7x^{3}=0$

9. $f\left(x\right)=x^{4}-2x^{2}-15$ 10. $y=3x^{3}+5x^{2}+x-1$

11. $f\left(x\right)=x^{4}-7x^{3}+13x^{2}+x-20$ 12. $x^{3}-4x^{2}-2x+20=0$

 

13. $x^{4}-3x^{3}-x^{2}-9x-12=0$ 14. $15x^{3}-47x^{2}+38x-8=0$

 

15. $f\left(x\right)=x^{5}+x^{4}-5x^{3}-x^{2}+8x-4$ 16. $x^{3}-64x=0$



17. $x^{4}-5x^{2}-24=0$ 18. $f\left(x\right)=x^{4}+2x^{3}-11x^{2}-12x+36$

 

Write the simplest polynomial function with the given roots.

19. -2, 0, 4 20. -3 (multiplicity of 3), 2/3

21. -1, -2i 22. $\sqrt{7}$, 5(multiplicity of 2)