Math 3 Name_____

Unit 8.4 Finding Zeros of a Polynomial Easy PRACTICE

Period____

State the possible rational zeros for each function. Then factor each and find all zeros. One zero has been given.

1) $f(x) = x^3 + 6x^2 + x - 34;\ 2$

2) $f(x) = x^3 - 4x^2 - 7x + 10;\ -2$

3) $f(x) = x^4 + 4x^3 - x^2 + 16x - 20;\ -5$

4) $f(x) = x^5 - 2x^4 + 10x^3 - 20x^2 + 16x - 32;\ 2$

5) $f(x) = x^5 + 3x^4 + x^3 + 3x^2 - 2x - 6;\ -3$

6) $f(x) = x^4 + 13x^3 + 39x^2 + 13x - 42;\ -3$

7) $y = x^5 - 5x^4 + 12x^3 - 60x^2 + 27x - 135;\ 5$

8) $y = x^3 + 3x^2 - 4x - 12;\ -2$

9) $y = x^3 + 10x^2 + 36x + 40;\ -2$

10) $y = x^5 + 2x^4 - 5x^3 - 10x^2 - 6x - 12;\ -2$

11) $y = x^4 - 5x^3 + x - 5;\ 5$

12) $y = x^3 - 4x^2 - 7x + 10;\ 5$

State the possible rational roots for each equation. Then factor each and find all roots. One root has been given.

13) $x^3 - 6x^2 - 15x + 100 = 0;\ 5$

14) $x^4 - 24x^2 - 25 = 0;\ -5$

15) $x^5 - 5x^4 + 7x^3 - 35x^2 - 8x + 40 = 0;\ 5$

16) $x^3 - 7x^2 + 20x - 24 = 0;\ 3$

17) $x^3 + 3x^2 - 10x - 24 = 0;\ 3$

18) $x^5 + 2x^4 + 12x^3 + 24x^2 + 27x + 54 = 0;\ -2$