Unit 10 Review	Name:	
Secondary Math 3 Lite	Date:	Class:

Determine if the given value is a zero of the function using synthetic division

1.
$$x=-2$$
, $f(x) = 2x^3 + 8x^2 - 22x - 60$
2. $x=2$, $f(x) = x^3 - 3x^2 - x + 3$

State the degree, zeros, and x-intercepts from the following

3. $f(x) = x(x+3)^2(x-1)$	4. $f(x) = (x+3)(x+2)(x-6)$
Degree:	Degree:
Zeros:	Zeros:
x-intercepts:	x-intercepts:

State the degree, zeros, and x-intercepts after factoring

5. $f(x) = x^3 + 4x^2 + 4x$	6.	$f(x) = x^3 - 2x^2 - 3x$
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Degree:

Zeros:

x-intercepts:

Degree:

Zeros:

x-intercepts:

7. $f(x) = x^3 - 8x^2 + 16x$	8. $f(x) = x^3 + 2x^2 - 8x$
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Degree:	Degree:
Zeros:	Zeros:
x-intercepts:	x-intercepts:

 Write a function in factored form with the given zeros

 9. x= 2, 5, -7
 10. x=4, 2, -3
 11. x= 1, 4

For the following functions, find the zeros, state the multiplicity at each zero, and sketch a graph by hand using the degree and end behavior

12. $f(x) = (x+2)^2(x-1)$

Zeros	Multiplicity	Intersection



13.
$$h(x) = x(x+3)^2(x-2)^3$$

Zeros	Multiplicity	Intersection

Given one zero, find all other zeros by doing synthetic division and then factoring

14.
$$x = -1$$
, $f(x) = x^3 + 2x^2 - 11x - 12$
15. $x = 3$, $f(x) = x^3 + 3x^2 - 10x - 24$

16. x=5,
$$f(x) = x^3 - 2x^2 - 19x + 20$$
 17. x= 3, $f(x) = x^3 - 4x^2 + x + 6$