Algebra II A **Name** _____
6.6-6.7 Review

Factor completely. Do Not Solve!

1. $x^4 - 5x^2 + 6$

2. $x^4 + 7x^2 + 12$

3. $3x^4 - 75x^2$ **Is there a GCF?**

4. $-2x^4 + 8x^2$ **Is there a GCF?**

5. $x^5 - 10x^3 + 16x$ **Is there a GCF?**

6. $x^3 + 4x^2 + 9x + 36$ **How do you factor when there are 4 terms?**

SOLVE the following polynomial equation by factoring.

7. $3x(x+4)(x^2-7) = 0$
already in factored form…just solve!

8. $x^4 - 4x^2 = 0$

9. $x^4 - 6x^2 + 9 = 0$

10. $x^4 - 25 = 0$

11. $x^4 + 3x^2 = 28$ …Set this one =0!

12. $3x^4 - 4x^2 - 7 = 0$ **...Use the box method!**

13. $x^3 + 5x^2 + 6x = 0$ **Is there a GCF?**

14. Given $y = x^3 + 5x^2 + 6x$

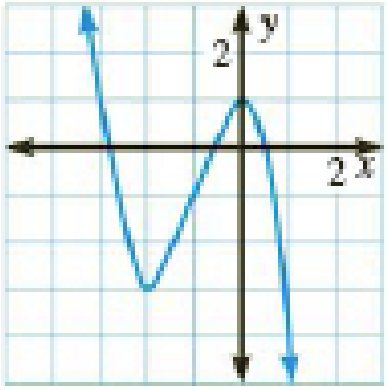
What is the degree?_____

What is the name of the equation? Circle one: **Linear quadratic cubic Quartic Quintic**

What is the max number of turning points? _____

Determine the zeros and the least degree that the polynomial function can have. Then estimate the coordinate of each turning point and state whether it is a local minimum or local maximum.

14.



Roots:_____ **Degree=**_____

Turning Point/type:_____

Turning Point/type:_____

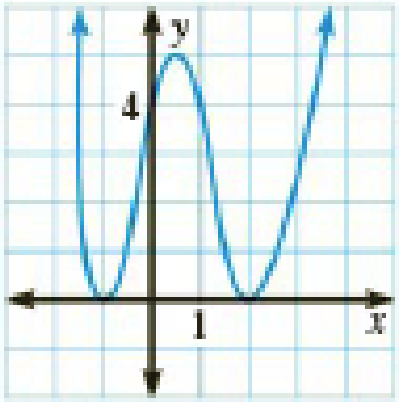
Right Side Behavior

As $x \to \infty$, $y \to$ _____

Left Side Behavior

As $x \to -\infty$, $y \to$ _____

15.



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