

## Module 3 Review

name \_\_\_\_\_ date \_\_\_\_\_

For #'s 1-6 Factor completely. Show all steps.

1. $n^2 - 8n - 9$	2. $4x^3 + 12x^2 - 16x$
3. $x^3 - x^2 + 4x - 4$	4. $25y^2 - 90xy + 81x^2$
5. $3a^4 - 75b^2$	6. $3n^2 - 48n + 144$

7. Solve: $x^2 - 12 = -18$	8. Solve: $-3x^2 - 18 = 18$
9. Simplify: $3\sqrt{48} + 5\sqrt{27} - 2\sqrt{243} =$	10. Simplify: $\sqrt{-2} \times \sqrt{-72} =$

Solve the following by any means

11.  $n^2 - 70n - 144 = 0$

12.  $n^2 - 7n = -15$

13.  $2x^2 + 6x + 11 = 0$

14.  $5x^2 + 3 = -12x$

15. What is the vertex for #14?

16. Find the vertex of  $x^2 + 6x - 16 = 0$  using 2 different methods.

17. Without solving determine the type of solutions expected.

a)  $x^2 + 9x - 10 = 0$

b)  $-x^2 - 9x - 16 = 0$

c)  $3x^2 + 9x + 16 = 0$

18. Provide a detailed graph for the problems in #17.