Algebra 2—H
Handout 5.2A
Copy down each problem. Factor completely, if possible. If the trinomial cannot be factored, write "prime".

1. $3x^2 + 17x + 10$

2. $7x^2 - 10x - 3$

3. $5 - 13x - 6x^2$

4. $15x^3 - 60x^2 - 315x$

5. $18x^2 + 9xy + y^2$

6. $27x^2 + 45x + 12$

7. $8x^2 - 28x - 60$

8. $10x^2 - 19x + 6$

9. $15x^2 - 13x - 6$

10. $x^2 + \dfrac{1}{6}x - \dfrac{1}{6}$

11. $(x-1)^2 - 14(x-1) + 40$

12. $x^{2n} - x^n - 20$

13. $2x^{2n} + 9x^n - 5$

Copy down each problem. Solve for x.

14. $(x-6)^2 = x$

15. $6x^3 + x^2 - x = 0$

16. $15x^2 - 39x = -18$

17. $2x^2 - 4x - 8 = x - x^2$ 18. $(8x-11)(12x^2 - 5x - 2) = 0$

Copy down each problem. Graph the parabola. Give the vertex, axis of symmetry, and the maximum or minimum value of the function.

19. $y = \dfrac{1}{2}x^2 + 4x + 5$

20. $y = -2(x+3)^2 + 4$

21. $y = 2(x-3)(x-6)$