Name _____

3.8 Factoring $x^2 + bx + c$

MATHPOWER™ 10, Western Edition, pp. 125–127

Factor, if possible.

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

2. $y^2 + 2y - 3$

3. $m^2 + 7m - 12$

4. $a^2 + 6a + 5$

5. $x^2 - 9x - 10$

6. $b^2 - 7b + 10$

7. $y^2 - 6y + 7$

8. $x^2 + x - 20$

Factor, if possible.

9. $x^2 + 24x - 52$

10. $m^2 - 18m + 45$

11. $x^2 + 5x - 36$

12. $x^2 - 5xy - 66y^2$

13. $m^2 + 12mn + 32n^2$

14. $x^2y^2 - 10xy - 24$

15. $m^2n^2 + 15mn + 54$

16. $42 + y - y^2$

17. $32 + 4x - x^2$

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

Factor completely.

19. $2x^2 + 10x + 12$

20. $3x^2 + 9x - 12$

21. $5x^2 - 35x + 50$

22. $4x^2 - 16x - 48$

23. $3x^2y + 27xy + 60y$

24. $2x^2 - 16x - 66$

25. $2x^2y^2 - 6xy^2 - 56y^2$

26. $x^3 - 13x^2 + 42x$

27. The area of a doubles tennis court can be represented approximately by the trinomial $x^2 - x - 42$.

a) Factor $x^2 - x - 42$ to find binomials that represent the length and width of a doubles tennis court.

b) If x represents 17.8 m, find the length and width of a doubles tennis court, to the nearest tenth of a metre.

28. Find a value for k and then factor.

a) $x^2 - 9x + k$ b) $x^2 + kx + 6$