

* Circled Questions

* Do all work on separate page.

EXTRA PRACTICE 10

Factoring Polynomials

Use after Sections 5.1 - 5.5

Name _____

Examples. Factor completely.

a) $4x^3 + 12x^2 - 8x = 4x(x^2 + 3x - 2)$

b) $5x^3 - 3x^2 + 20x - 12 = x^2(5x - 3) + 4(5x - 3) = (5x - 3)(x^2 + 4)$

c) $x^2 + 2x - 35 = (x + 7)(x - 5)$

d) $3x^2 - 5x - 2 = (3x + 1)(x - 2)$

e) $x^2 - 18x + 81 = (x - 9)^2$

f) $4x^2 - 25y^2 = (2x + 5y)(2x - 5y)$

Factor.

① $x^2 - 6x - 16 =$ _____

② $4y^2 + 7y - 2 =$ _____

③ $5a^3 - 25a^2 + 15a =$ _____

④ $9x^2 - 16 =$ _____

⑤ $x^2 - 64 =$ _____

⑥ $a^2 + 12a + 27 =$ _____

⑦ $6x^2 + 12x + 6 =$ _____

8. $x^3 + 2x^2 - 5x - 10 =$ _____

⑨ $x^2 - 10x + 21 =$ _____

10. $12x^5 - 6x^3 + 3x^2 =$ _____

⑪ $6y^2 - 54 =$ _____

12. $4y^2 - 17y - 15 =$ _____

⑬ $6x^2 - 7x + 2 =$ _____

⑭ $5x^2 - 5 =$ _____

15. $y^5 + 3y^3 + 4y^2 + 12 =$ _____

16. $x^2 - 7x - 18 =$ _____

EXTRA PRACTICE 10
Factoring Polynomials
 Use after Sections 5.1 - 5.5

17. $x^2 - 8x + 16 =$ _____

18. $a^2 - 9a + 14 =$ _____

19. $49x^2 - 1 =$ _____

20. $8x^4 - 4x^3 + 12x^2 =$ _____

21. $y^2 + 10y + 25 =$ _____

22. $3a^2 + 12a - 3 =$ _____

23. $x^4 - 81 =$ _____

24. $9y^2 - 12y + 4 =$ _____

25. $a^2 + 11a + 30 =$ _____

26. $8t^2 + 2t - 3 =$ _____

Expand.

27. $(5 + d)^2$ _____

28. $(3 + y)(3 - y)$ _____

29. $(3x - 2y)(4x - 3y + 5)$ _____

30. $(3v + 2w - 7)(2v - 5w)$ _____

31. $(2c - 3)(c + 5) + 3(c - 3)(-3c + 1)$ _____

32. $(6h + k - 2)(2h - 3) - (4h - 3k)^2$ _____