

### Factoring Practice Page Level 3

Factor completely. Use blank factoring pages as needed. Watch for GCF before factoring.

1.  $a^3 - 1$

Answer: \_\_\_\_\_

2.  $x^3 + 2x^2 - 4x - 8$

Answer: \_\_\_\_\_

3.  $2r^3s^2 + 6r^2s^3 + 8rs^4$

Answer: \_\_\_\_\_

4.  $36m^2 - 36m + 9$

Answer: \_\_\_\_\_

5.  $4x^2 - 9$

Answer: \_\_\_\_\_

6.  $3a^2 + a - 3ab - b$

Answer: \_\_\_\_\_

7.  $x^2 + 2x + 8$

Answer: \_\_\_\_\_

8.  $8m^3 - 64$

Answer: \_\_\_\_\_

9.  $x^2 + 6x - 27$

Answer: \_\_\_\_\_

10.  $3p^2 + 6p - 3r^2$

Answer: \_\_\_\_\_

11.  $4m^4 - 4m^2$

Answer: \_\_\_\_\_

12.  $4a^2 + 13a + 3$

Answer: \_\_\_\_\_

13.  $m^{12} - 1$

Answer: \_\_\_\_\_

14.  $x^2 - xy + 3x - 3y$

Answer: \_\_\_\_\_

15.  $6r^2 + 8r - 3$

Answer: \_\_\_\_\_

16.  $5p^2q^2 - 10p^2q + 5p^2$

Answer: \_\_\_\_\_

17.  $2x^3 + 54$

Answer: \_\_\_\_\_

18.  $a^3 + a^2b - ab^2 - b^3$

Answer: \_\_\_\_\_

Factoring Practice Page Level 2  
Answers

1.  $(a-1)(a^2 + a + 1)$
2.  $(x + 2)(x + 2)(x - 2)$
3.  $2rs^2(r^2 + 3rs + 4s^2)$
4.  $9(2m - 1)(2m - 1)$
5.  $(2x - 3)(2x + 3)$
6.  $(a - b)(3a + 1)$
7. prime
8.  $8(m - 2)(m^2 + 2m + 4)$
9.  $(x + 9)(x - 3)$
10.  $3(p^2 + 2p - r^2)$
11.  $4m^2(m + 1)(m - 1)$
12.  $(a + 3)(4a + 1)$
13.  $(m^2 + 1)(m^4 - m^2 + 1)(m + 1)(m^2 - m + 1)(m - 1)(m^2 + m + 1)$  Always factor  
 $2^{\text{nd}}$  powers before  $3^{\text{rd}}$  powers
14.  $(x - y)(x + 3)$
15. prime
16.  $5p^2(q - 1)(q - 1)$
17.  $2(x + 3)(x^2 - 3x + 9)$
18.  $(a + b)(a + b)(a - b)$