

Transitions to College Mathematics  
2.2 Review

Name: Key  
Date: \_\_\_\_\_ Period: \_\_\_\_\_

Factor completely.

1.  $3z^2 + 6z$

$3z(z+2)$

2.  $x(x+4) - 3(x+4)$

$(x+4)(x-3)$

3.  $25t^2 - 81$

$(5t+9)(5t-9)$

4.  $8k^3 + 27$

$(2k+3)(4k^2 - 6k + 9)$

5.  $25p^2 - 20p + 4$

$(5p-2)^2$

6.  $x^3 - 64$

$(x-4)(x^2 + 4x + 16)$

7.  $x^2 - 2x + 1$

$(x-1)^2$

8.  $36x^2 + 22x + 25$

PRIME

9.  $8x^3 + 1$

$(2x+1)(4x^2 - 2x + 1)$

10.  $225x^4 - 1$

$(15x^2+1)(15x^2-1)$

11.  $4w+12-zw-3z$

$$4(w+3) - z(w+3) \\ (w+3)(4-z)$$

12.  $x^2+x-42$

$$(x-6)(x+7)$$

13.  $x^2+3x-40$

$$(x-5)(x+8)$$

14.  $8-12p-6p^3+9p^4$

$$4(2-3p) - 3p^3(2-3p) \\ (2-3p)(4-3p^3)$$

15.  $x^2-x-42$

$$(x-7)(x+6)$$

16.  $9w^2-1$

$$(3w+1)(3w-1)$$

17.  $27x^2+9x+3$

$$3(9x^2+3x+1)$$

18.  $2x^4-200$

$$2(x^4-100) \\ 2(x^2+10)(x^2-10)$$

19.  $2x^2-5x-3$

$$(2x+1)(x-3)$$

20.  $6w^2-7w-20$

$$(3w+4)(2w-5)$$