Factors and Products Review - Chapter 3

1. a) Draw a factor tree for 250.
   b) The prime factorization of 250 is:

2. Find the GCF of 20 and 45.

3. Find the LCM of 16 and 20.

4. Write $\sqrt{2025}$ as a mixed radical.

5. Write $\sqrt[3]{2744}$ as a mixed radical

6. Factor $12p+18$.

7. Factor each polynomial.
   a) $9x^2 - 12x$
   b) $-10m^2 - 15m + 5$

8. Expand each of the following
   a) $(c - 6)(c - 5)$
   b) $(h - 4)(h + 7)$

9. a) Factor $x^2 + 9x + 8$
   b) Factor $x^2 - 8x + 15$

10. Expand, then simplify $(2x - 5)(3x - 6)$.

11. Factor $2x^2 + 11x + 5$

12. Factor each trinomial.
   a) $7n^2 + 8n + 1$
   b) $3v^2 - 8v + 4$

13. Expand, then simplify and verify.
   a) $(3m + 2)(2m^2 + m + 5)$
   b) $(3z - 2)(z^2 - 3z - 4)$

14. Factor.
   a) $4c^2 + 20c + 25$
   b) $16m^2 - 81$

Chapter 3 Review, page 196

1. **b)** 2×5^3

2. 5

3. 80

4. 45

5. 14

6. $6(2p+3)$

7. **a)** $3x(3x-4)$ **b)** $-5(2m^2+3m-1)$

8. **a)** $c^2-11c+30$ **b)** $h^2+3h-28$

9. **a)** $(x+8)(x+1)$ **b)** $(x-3)(x-5)$

10. $6x^2-3x-30$

11. $(2x+1)(x+5)$

12. **a)** $(7n+1)(n+1)$ **b)** $(v-2)(3v-2)$

13. **a)** $6m^3+7m^2+17m+10$ **b)** $3z^3-11z^2-6z+8$

14. **a)** $(2c+5)^2$ **b)** $(4m+9)(4m-9)$