DIRECTIONS: Simplify.

1. $\dfrac{3^{-2}3^4}{3^5}$

2. $(4^{-2})^2$

3. $\dfrac{cd^3}{50} \bullet \dfrac{35c^5}{c^2d^2}$

4. $(\dfrac{h^4k^{-2}}{2k})^{-3}$

5. $(5x^2 - 3x + 7) - (4x^2 - 10x - 2)$

6. $(2x - 3)(x^2 - x + 4)$

7. $(3w + 7)(3w - 7)$

8. $(m + 5)^3$

9. $(3z + 4)^2$

10. $(y + 1)(y - 5)(y + 6)$

DIRECTIONS: Factor completely.

11. $6x^2 + x - 2$

12. $10y^2 - 19y + 6$

13. $27a^3 - 8$

14. $20x^4 - 23x^3 + 6x^2$

15. $121x^2 - 1$

16. $xy - 2y - x + 2$

17. $8y^3 + 1$

18. $9c^2 + 30c + 25$

19. $pq - 2q + 2p - 4$

20. $4x^4y^2 + 4x^2y + 1$

21. $6x^2 + 35x - 6$

22. $20x^3 - 32x^2 + 12x$

23. $x^6 + y^3$

24. $x^4 - 16$

25. $4x^2 - 28x + 49$

26. $4xy + 1 - 2x - 2y$

27. $x^2 + 4x - 12$

28. $250y^2 - 2y^5$

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

30. $16x^4 - 81$

31. $x^4 + 5x^2 - 24$

DIRECTIONS: Find the real number solutions of the equations.

32. $x^3 + 6x^2 - 4x - 24 = 0$

33. $x^3 - 8 = 0$

34. $12x^2 + 12x - 45 = 0$

35. $x^3 + 4x^2 = 7x + 28$