

## Radical expressions and equations

Date \_\_\_\_\_ Period \_\_\_\_\_

**Simplify.**

1)  $\sqrt{320a^2}$

2)  $\sqrt{245p^3}$

3)  $\sqrt{128k^3}$

4)  $\sqrt{32n^2}$

5)  $3\sqrt{24} + 2\sqrt{54}$

6)  $2\sqrt{2} + 2\sqrt{2}$

7)  $-2\sqrt{24} + 3\sqrt{54}$

8)  $-\sqrt{54} - 2\sqrt{54}$

9)  $2\sqrt{12} - 2\sqrt{3}$

10)  $-3\sqrt{3} - \sqrt{12}$

11)  $-3\sqrt{5} + 3\sqrt{5}$

12)  $2\sqrt{6} + 2\sqrt{54}$

13)  $2\sqrt{5}(\sqrt{5} + \sqrt{2})$

14)  $\sqrt{5}(\sqrt{3} - 2\sqrt{10})$

15)  $(1 + \sqrt{5})(3 + 2\sqrt{5})$

16)  $(4\sqrt{5} + \sqrt{2})(\sqrt{5} + \sqrt{2})$

**Solve each equation. Remember to check for extraneous solutions.**

17)  $2 + \sqrt{56 - x} = 9$

18)  $\sqrt{3x + 4} = 7$

19)  $\sqrt{3k - 4} = \sqrt{2k - 1}$

20)  $\sqrt{n + 7} = \sqrt{1 - 2n}$