

## CH. 5B PRACTICE TEST

5.5 Simplify each radical expression as much as possible.

1.  $\sqrt{25}$

2.  $\sqrt{x^4}$

3.  $\sqrt[3]{y^6}$

4.  $\sqrt{81a^6b^{12}c^2}$

5.  $\sqrt{\frac{4x^{10}}{25}}$

6.  $\sqrt[4]{16x^4y^{12}}$

5.6 Simplify each radical expression as much as possible.

7.  $\sqrt{32x^2y^{11}}$

8.  $\sqrt{75a^5b^{12}c^7}$

9.  $(5 + \sqrt{3})(4 - \sqrt{2})$

10.  $(\sqrt{5} + \sqrt{2})^2$

11.  $\sqrt{5} + \sqrt{20} + \sqrt{45}$

12.  $\sqrt{27} + \sqrt{8} - \sqrt{12} + \sqrt{32}$

13.  $\frac{4}{3 + \sqrt{2}}$

14.  $\frac{2 + \sqrt{3}}{4 - \sqrt{3}}$

5.7 Change each expression to radical form

15.  $5^{\frac{1}{3}}$

16.  $x^{\frac{3}{5}}$

Change each radical to exponent form

17.  $\sqrt[3]{x^2}$

18.  $\sqrt[3]{5x^2y}$

Simplify each expression with all powers as positives.

19.  $x^{\frac{1}{3}} \cdot x^{\frac{2}{5}}$

20.  $\frac{y^{\frac{2}{3}}}{y^{\frac{1}{4}}}$

21.  $\left(a^{\frac{3}{4}}\right)^{\frac{2}{3}}$

22.  $\frac{4y^{\frac{1}{2}}}{y^{\frac{1}{6}} \cdot y^{\frac{1}{3}}}$

5.8 Solve each equation for x.

23.  $\sqrt{x+5} \geq 4$

24.  $\sqrt{2x+4} - 3 \leq 7$

25.  $\sqrt{x-3} = \sqrt{2x-1}$

26.  $(3x+4)^{\frac{1}{2}} + 3 = 7$