

Name: \_\_\_\_\_ Hour: \_\_\_\_\_

## Simplifying Radicals ws

Simplify the radicals and write your answers in EXACT form.

1.  $2\sqrt{27}$

2.  $\sqrt{12}$

3.  $3\sqrt{8}$

4.  $5\sqrt{44}$

5.  $2\sqrt{36a^4b}$

6.  $\sqrt[3]{8x^3y^2}$

7.  $\sqrt{a^3b^4}$

8.  $2\sqrt[3]{27x^5y^6z^{10}}$

9.  $\sqrt[4]{32x^5y^{11}}$

10.  $\sqrt{\frac{49}{y^2}}$

11.  $\sqrt{\frac{25y^3}{x^4}}$

12.  $\frac{3}{\sqrt{6}}$

13.  $\frac{6+\sqrt{45}}{3}$

14.  $\frac{10+\sqrt{50}}{5}$

15.  $\frac{6+\sqrt{12}}{2}$

16.  $2\sqrt{50ab^5}$

17.  $-\sqrt{49x^2}$

18.  $\sqrt{80x^3}$

**19. True or False.**

a. $\frac{\sqrt{15}}{3} = \sqrt{3}$	b. $\sqrt[3]{9} = 3$
c. $\sqrt[6]{16} = \sqrt[3]{4}$	d. $\frac{2+\sqrt{6}}{2} = 1 + \sqrt{6}$
e. $\sqrt{4} = \sqrt{2}$	f. $\sqrt{12} = 2\sqrt{6}$
g. $\sqrt[3]{-27} = -3$	h. $\sqrt{-25} = -5$
i. $\sqrt{283} = 17$	j. $\sqrt{18} = 9\sqrt{2}$
k. $\frac{6}{\sqrt{5}} = \frac{\sqrt{30}}{5}$	l. $\frac{8}{\sqrt{2}} = 4\sqrt{2}$

**Simplify.**

20.  $5\sqrt{7} + \sqrt{7}$

21.  $\sqrt{3} + \sqrt{27}$

22.  $2\sqrt{3} - 4\sqrt{18}$

23.  $\sqrt{2}(\sqrt{8})$

24.  $3\sqrt{2}(-1\sqrt{5} + 3\sqrt{20})$

25.  $2\sqrt{2}(\sqrt{5} + 9\sqrt{2})$