

Working With Radicals #1

Name Key Pd _____ Date _____

Complete the problems below. Write your final answer on the line beside each number.

Simplify.

-17 1. $-\sqrt{289}$

$\frac{14}{15}$ 2. $\sqrt{\frac{196}{225}}$

5 3. $\sqrt{\frac{75}{3}}$

$\frac{1}{5}$ 4. $\sqrt{\frac{4}{100}}$

$x^2y\sqrt{y}$ 5. $\sqrt{x^4y^3}$

$7\sqrt{3}$ 6. $\sqrt{147}$

$3\sqrt{5}$ 7. $\sqrt{45}$

$6x^2y^2\sqrt{y}$ 8. $\sqrt{36x^4y^5}$

$\frac{1}{3b}$ 9. $\sqrt{\frac{3b^2}{27b^4}}$

$\sqrt{5b}$ 10. $\sqrt{\frac{10m^4}{2m^3}}$

$\frac{y^2}{2}$ 11. $\sqrt{\frac{9y^6}{36y^2}}$

$2\sqrt{38}$ 12. $\sqrt{152}$

$\sqrt{86}$ 13. $\sqrt{86}$

$15\sqrt{2}$ 14. $\sqrt{450}$

$$\underline{2x^2y^2\sqrt{11x}} \quad 15. \sqrt{44x^5y^4}$$

$$\underline{10\sqrt{2}} \quad 16. \sqrt{10} \cdot \sqrt{20}$$

$$\underline{7} \quad 17. \frac{\sqrt{98}}{\sqrt{2}}$$

$$\underline{150} \quad 18. 5\sqrt{10} \cdot 3\sqrt{10}$$

$$\underline{\frac{\sqrt{11}}{11}} \quad 19. \frac{\sqrt{5}}{\sqrt{55}}$$

$$\underline{36\sqrt{3}} \quad 20. 4\sqrt{27} + 6\sqrt{48}$$

$$\underline{5\sqrt{13} + 5\sqrt{15}} \quad 21. 2\sqrt{13} + 8\sqrt{15} - 3\sqrt{15} + 3\sqrt{13}$$

$$\underline{-2\sqrt{6} + 11\sqrt{3}} \quad 22. \sqrt{6} - \sqrt{54} + 3\sqrt{12} + 5\sqrt{3}$$

$$\underline{69\sqrt{2} - 10\sqrt{3}} \quad 23. 7\sqrt{98} + 5\sqrt{32} - 2\sqrt{75}$$

$$\underline{23\sqrt{2}} \quad 24. 5\sqrt{98} - 3\sqrt{32}$$

$$\underline{12\sqrt{2}} \quad 25. \sqrt{32} + \sqrt{128}$$

$$\underline{3\sqrt{42}} \quad 26. \sqrt{168} + \sqrt{42}$$

$$\underline{16\sqrt{3}} \quad 27. 6\sqrt{3} + \sqrt{300}$$

$$\underline{10\sqrt{6t}} \quad 28. \sqrt{216t} + \sqrt{96t}$$

Use the Pythagorean Theorem to find each missing measure.

$$\underline{34} \quad 29. a=30, b=16, c=?$$

$$\underline{20} \quad 30. a=15, c=25, b=?$$