Name _____ Class _____ Date _____

Practice 9-4

Mixed Exercises

Simplify each radical expression. Assume that all variables under radicals represent positive numbers.

1. $\sqrt{32}$ **2.** $\sqrt{22} \cdot \sqrt{8}$ **3.** $\sqrt{147}$ **4.** $\sqrt{\frac{17}{144}}$ **5.** $\sqrt{a^2b^5}$

6. $\frac{2}{\sqrt{6}}$ **7.** $\sqrt{80}$ **8.** $\sqrt{27}$ **9.** $\frac{\sqrt{256}}{\sqrt{32}}$ **10.** $\frac{8}{\sqrt{7}}$

11. $\sqrt{12x^4}$ **12.** $\frac{\sqrt{96}}{\sqrt{12}}$ **13.** $\sqrt{200}$ **14.** $\sqrt{\frac{12}{225}}$ **15.** $\sqrt{15} \cdot \sqrt{6}$

16. $\sqrt{120}$ **17.** $\frac{4}{\sqrt{2a}}$ **18.** $\left(3\sqrt{2}\right)^3$ **19.** $\sqrt{250}$ **20.** $\frac{\sqrt{65}}{\sqrt{13}}$

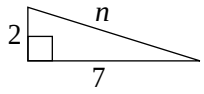
21. $\sqrt{84}$ **22.** $\sqrt{\frac{18}{121}}$ **23.** $\sqrt{48s^3}$ **24.** $3\sqrt{24}$ **25.** $\sqrt{15} \cdot \sqrt{35}$

26. $\sqrt{160}$ **27.** $\frac{6}{\sqrt{3}}$ **28.** $\frac{\sqrt{48n^6}}{\sqrt{6n^3}}$ **29.** $\sqrt{136}$ **30.** $\sqrt{\frac{27x^2}{256}}$

31. $\sqrt{m^3n^2}$ **32.** $\frac{\sqrt{180}}{\sqrt{9}}$ **33.** $\sqrt{18} \cdot \sqrt{8}$ **34.** $\left(10\sqrt{3}\right)^2$ **35.** $\sqrt{\frac{17}{64}}$

Use the Pythagorean theorem to find *n*. Express *n* as a radical in simplest form.

36.



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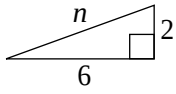

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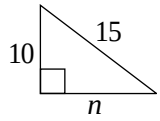

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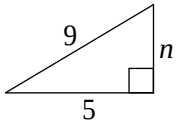

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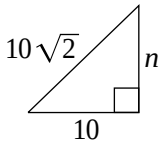

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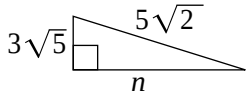

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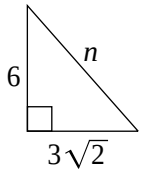

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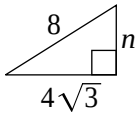

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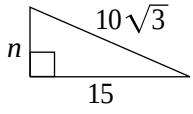

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