

Name: _____

Simplifying Radical Expressions Problem Set

Hour: _____

Express each of the following as a rational number or in simplest radical form. Assume that the symbols a , b , and x represent positive numbers.

1. $\sqrt{36}$

4. $\sqrt{27x^2}$

2. $\sqrt{72}$

5. $\sqrt{9x^2}$

3. $\sqrt{18}$

6. $\sqrt[3]{24a}$

Express each of the following in simplest radical form, combining terms where possible.

7. $\sqrt{25} + \sqrt{45} - \sqrt{20}$

11. $-3\sqrt[3]{162} - \sqrt[3]{3} + 4\sqrt[3]{6}$

8. $5\sqrt{5} - 7\sqrt{2} - 3\sqrt{2}$

12. $-4\sqrt[3]{48} - 4\sqrt[3]{48} - 2\sqrt[3]{7}$

9. $5\sqrt{14} - \sqrt{15} + 5\sqrt{14}$

13. $2\sqrt{3} + 3\sqrt{12} - \sqrt{24}$

10. $7\sqrt{11} + 5\sqrt{15} - 4\sqrt{15}$

14. $-3\sqrt[3]{189} - 4\sqrt[3]{56} + 4\sqrt[3]{189}$