Standard 4A Review: Simplifying and Operations with Radicals

Name: Key Hr:

Simplify

1. $\sqrt{48}$

$4\sqrt{3}$

2. $\sqrt{128}$

$8\sqrt{2}$

3. $3\sqrt{125x^3}$

$15x\sqrt{5x}$

4. $2\sqrt{112y^5}$

$8y^2\sqrt{7y}$

5. $4\sqrt[3]{54x^5z^4}$

$12xz\sqrt[3]{2x^2z}$

6. $2\sqrt[3]{24x^7y^3}$

$4x^2y\sqrt[3]{3x}$

7. $\frac{8+\sqrt{48}}{4}$

$2+\sqrt{3}$

8. $\frac{4+\sqrt{32}}{4}$

$1+\sqrt{2}$

9. $\frac{2}{\sqrt{6}}\cdot\frac{\sqrt{6}}{\sqrt{6}}$

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

10. $\frac{5}{\sqrt{3}}\cdot\frac{\sqrt{3}}{\sqrt{3}}$

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

11. $\sqrt{\frac{126}{7}}$

$3\sqrt{2}$

12. $\sqrt{\frac{48}{3}}$

4

13. $5\sqrt{18}-\sqrt{2}$

$14\sqrt{2}$

14. $\sqrt{6}+\sqrt{294}$

$8\sqrt{6}$

15. $2\sqrt{3}-3\sqrt{5}+5\sqrt{125}$

$2\sqrt{3}+22\sqrt{5}$

16. $2\sqrt{63}-3\sqrt{3}+5\sqrt{7}$

$11\sqrt{7}-3\sqrt{3}$

17. $\sqrt{3}(\sqrt{24}-2\sqrt{3})$

$6\sqrt{2}-6$

18. $\sqrt{2}(3\sqrt{10}-2\sqrt{2})$

$6\sqrt{5}-4$

19. Evaluate $\sqrt{c^2+ab}$ when $a=3$, $b=8$, *and* $c=-4$. Write the answer in simplest form.

$2\sqrt{10}$

20. Evaluate $\sqrt{c^2+ab}$ when $a=8$, $b=2$, *and* $c=-12$. Write the answer in simplest form.

$4\sqrt{10}$