ILLAWARRA TUTORING

In this worksheet you will master the process of simplifying radical expressions and managing irrational numbers. You will learn to extract perfect square factors, combine like surds and perform operations with surds.

Easy Questions

1. Simplify $\sqrt{50}$.
2. Simplify $\sqrt{18}$.
3. Express $\sqrt{72}$ in simplest form.
4. Simplify $\sqrt{98}$.
5. Simplify $\sqrt{8}$.

Intermediate Questions

6. Simplify $\sqrt{12}$.
7. Simplify $2\sqrt{18}$.
8. Simplify $3\sqrt{50} - 2\sqrt{8}$.
9. Simplify $\sqrt{75} + \sqrt{27}$.
10. Express $\sqrt{45}$ in simplest form.
11. Simplify $\sqrt{32}$.
12. Simplify $2\sqrt{72}$.
13. Simplify $\sqrt{20} + \sqrt{45}$.
14. Simplify $\sqrt{200}$.
15. Simplify $\sqrt{27} - \sqrt{12}$.
16. Simplify $4\sqrt{50} + \sqrt{8}$.
17. Simplify $\sqrt{200} - 3\sqrt{8}$.
18. Express $\sqrt{63}$ in simplest form.
19. Simplify $5\sqrt{32} - 2\sqrt{18}$.
20. Simplify $2\sqrt{75} - \sqrt{27}$.

Hard Questions

21. Simplify $\sqrt{48} - 2\sqrt{12} + \sqrt{27}$.
22. Simplify $\sqrt{50} + \sqrt{18} - 2\sqrt{2}$.
23. Simplify $3\sqrt{2} \times \sqrt{8}$.
24. Simplify $\sqrt{12} \times \sqrt{27}$.
25. Simplify $(\sqrt{2} + \sqrt{8})^2$.
26. Simplify $\dfrac{\sqrt{72} - \sqrt{8}}{2}$.
27. If $x = \sqrt{50}$, simplify $x + \sqrt{18}$.
28. Simplify $\sqrt{48} \times \sqrt{27}$.
29. Simplify $\sqrt{20} \times (\sqrt{5} - \sqrt{20})$.
30. Simplify $\dfrac{\sqrt{32} + \sqrt{18}}{\sqrt{2}}$.