

Radicals

Perform the operations and write your answers in simplified form, where possible.

1. $3\sqrt{48} - 2\sqrt{27} - 3\sqrt{12}$

6. $\sqrt{\frac{1}{2}} - \sqrt{\frac{1}{8}}$

2. $3\sqrt{18} - 2\sqrt{32} - 5\sqrt{50}$

7. $4\sqrt{a} - 13\sqrt{a}$

3. $(\sqrt{2} - 8)(\sqrt{2} + 8)$

8. $\frac{\sqrt{27}}{\sqrt{45}}$

4. $(\sqrt{3} + \sqrt{10})^2$

9. $\sqrt{\frac{25}{64}}$

5. $\sqrt{5} * \sqrt{10}$

10. $3\sqrt{125} - 5\sqrt{125}$

Rationalise the denominators and write your answers in reduced form where possible.

1. $\frac{9}{\sqrt{2}}$

4. $\frac{10}{4 - \sqrt{5}}$

2. $\frac{8}{\sqrt{6}}$

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

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

6. $\frac{7\sqrt{6}}{6\sqrt{7}}$