



Roots & Radicals Worksheet

Rationalize & Simplify

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

2. $\frac{5}{4\sqrt{a}}$

3. $4\sqrt{32}$

4. $\frac{12\sqrt{18}}{\sqrt{3}}$

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

6. $3\sqrt{8} + 5\sqrt{18}$

7. $3\sqrt{10} \times \sqrt{75}$

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

9. $\frac{2}{3+\sqrt{3}}$

10. $\frac{17y}{\sqrt{6}-4}$

11. $\frac{4x}{\sqrt{3x+2}}$

12. $\frac{1+\sqrt{7}}{2-\sqrt{7}}$

13. $\frac{2+\sqrt{x}}{\sqrt{3x}-4}$

14. $2y\sqrt[3]{54y^7}$

15. $\frac{9\sqrt[3]{16x^8y^{10}b^4}}{5\sqrt[4]{16y^7b^{12}x^5}}$

16. $\frac{3\sqrt{50a^7b^3c^5}}{\sqrt{2abc}}$

$$x^3 + y^3 = (x + y)(x^2 - xy + y^2)$$

$$x^3 - y^3 = (x - y)(x^2 + xy + y^2)$$

17. $\frac{8}{2+\sqrt[3]{4}}$

18. $\frac{27-x^3}{9+3x+x^2}$

19. $\frac{4}{\sqrt[3]{x+y}}$

20. $x^{3/2} \div x^{-1/2}$