

Simplify the radicals by finding their square root. NO CALCULATORS for #s 1-9!!!!

1. $\sqrt{64}$

2. $\sqrt{121}$

3. $\sqrt{36}$

4. $\sqrt{9}$

5. $\sqrt{49}$

6. $\sqrt{100}$

7. $\sqrt{25}$

8. $\sqrt{81}$

9. $\sqrt{144}$

Show all of your work to have the chance to earn partial credit. Remember to always simplify each radical as much as you can. (Calculators are permitted)

Simplify the radicals. (Your answer should NOT be a decimal)

(1 point each)

1. $\sqrt{28}$

2. $\sqrt{54}$

3. $\sqrt{175}$

4. $\sqrt{63}$

5. $3\sqrt{20}$

6. $2\sqrt{48}$

Simplify the radical expressions. Remember to simplify your answer as much as possible. (Your answer should NOT be a decimal). (2 points each)

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

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

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

10. $\frac{\sqrt{9}}{\sqrt{7}}$

11. $\frac{4\sqrt{2}}{3\sqrt{10}}$

12. $\frac{2\sqrt{3}}{\sqrt{7}}$

Simplify the radical expressions by utilizing the conjugate. Remember to simplify your answer as much as possible. (Your answer should NOT be a decimal). (3 points each)

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

14. $\frac{2}{5+\sqrt{3}}$

15. $\frac{2}{3+\sqrt{6}}$

16. $\frac{2}{4\sqrt{3}-3}$

17. $\frac{2\sqrt{2}}{3\sqrt{5}+3}$

Simplify the radical expressions by using addition or subtraction. Remember to simplify your answer as much as possible.

18. $3\sqrt{7} + 2\sqrt{7}$

19. $25\sqrt{13} - 3\sqrt{13}$

20. $14\sqrt{2} + 6\sqrt{2}$

21. $3\sqrt{5} + 7\sqrt{17} + 4\sqrt{5}$

22. $10\sqrt{11} - 4\sqrt{11} + 5\sqrt{3}$

23. $4\sqrt{7} + 16\sqrt{13}$