Name Key

Algebra I Practice Quiz 10.2

Simplify each expression. Circle your answer.

1. $\sqrt{60}$

$\sqrt{4}\sqrt{15}$

$2\sqrt{15}$

2. $\sqrt{45}$

$\sqrt{9}\sqrt{5}$

$3\sqrt{5}$

3. $\sqrt{75}$

$\sqrt{25}\ \sqrt{3}$

$5\sqrt{3}$

4. $\sqrt{700}$

$\sqrt{100}\sqrt{7}$

$10\sqrt{7}$

5. $\sqrt{6} \bullet \sqrt{3}$

$\sqrt{18}$

$\sqrt{9}\sqrt{2}$

$3\sqrt{2}$

6. $\sqrt{3} \bullet \sqrt{8}$

$\sqrt{24}$

$\sqrt{4}\ \sqrt{6}$

$2\sqrt{6}$:)

7. $5\sqrt{6} \bullet \sqrt{6}$

$5\sqrt{36}$ $5 \cdot 6 = 30$

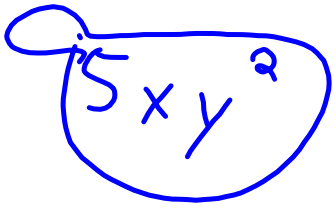
8. $3\sqrt{2} \bullet 4\sqrt{6}$

$12\sqrt{12}$

$= 12 \cdot 2\sqrt{3}$

$= 24\sqrt{3}$

9. $\sqrt{25x^2y^4}$



10. $\sqrt{63x^6y^7}$

$\sqrt{9}\sqrt{7}$

$3x^3y^3\sqrt{7y}$

11. $\sqrt{\frac{3}{7}} \cdot \frac{\sqrt{7}}{\sqrt{7}}$ $\frac{\sqrt{21}}{7}$

12. $\sqrt{\frac{36}{81}}$

$\frac{6}{9} = \frac{2}{3}$

13. $\frac{3}{7-\sqrt{2}} \cdot \frac{7+\sqrt{2}}{7+\sqrt{2}}$

$\frac{21+3\sqrt{2}}{49-5\cancel{4}_{2}} = \frac{21+3\sqrt{2}}{47}$

14. $\frac{2}{\sqrt{6}+1}$ $\frac{\sqrt{6}-1}{\sqrt{6}-1}$

$\frac{2\sqrt{6}-2}{\sqrt{36}-1} = \frac{2\sqrt{6}-2}{5}$

15. $\sqrt{24}$

$\sqrt{4}\sqrt{6}$

$2\sqrt{6}$

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

$-15\sqrt{14}$

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

$$\frac{\sqrt{1}}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} \quad \frac{\sqrt{5}}{\sqrt{25}}$$

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

18. $\sqrt{\frac{12}{x^2}} = \frac{\sqrt{12}}{x} = \frac{\sqrt{4}\sqrt{3}}{x}$

$= \frac{2\sqrt{3}}{x}$

19. $\frac{\sqrt{2}}{3+\sqrt{5}} \cdot \frac{3-\sqrt{5}}{3-\sqrt{5}}$

$\frac{3\sqrt{2}-\sqrt{10}}{9-\sqrt{25}}$

$\frac{3\sqrt{2}-\sqrt{10}}{4}$

$\frac{3\sqrt{2}-\sqrt{10}}{9-5=4}$

20. $\sqrt{32xy^4}$

$\sqrt{16}\ \sqrt{2}$

$4y^2\ \sqrt{2x}$

21. $\sqrt{98}$

$\sqrt{49}\ \sqrt{2}$

$7\sqrt{2}$

22. $\sqrt{48}$

$\sqrt{16}\ \sqrt{3}$

$4\sqrt{3}$

23. $\sqrt{5} \bullet \sqrt{20}$

$\sqrt{100}$

10

24. $\sqrt{8} \bullet \sqrt{10}$

$\sqrt{80}$

$\sqrt{16}\sqrt{5}$

$4\sqrt{5}$