

1. Subtract. $3\sqrt{63} - 5\sqrt{28}$

A. $-14\sqrt{3}$

B. $\sqrt{7}$

C. $-\sqrt{7}$

D. $-2\sqrt{35}$

2. Rationalize the denominator. $\frac{-8}{\sqrt{24}}$

A. $-\frac{8}{3}$

B. $-\frac{\sqrt{24}}{3}$

C. $-\frac{\sqrt{6}}{36}$

D. $-\frac{2\sqrt{6}}{3}$

3. Evaluate. $100^{\frac{3}{2}}$

A. 150

B. 1000

C. 30

D. 10

4. Simplify. $\sqrt{75a^{12}b^3c^5}$

A. $5a^6bc^2\sqrt{3abc}$

B. $3a^6bc^2\sqrt{5abc}$

C. $5a^6bc^2\sqrt{3bc}$

D. $3a^6bc^2\sqrt{5bc}$

5. Simplify. $\sqrt{3x} - 2\sqrt{12x} + 4\sqrt{18x}$

- A. $9x\sqrt{6}$
- B. $\sqrt{3x} + 8\sqrt{2x}$
- C. $-3\sqrt{3x} + 12\sqrt{2x}$
- D. $9\sqrt{3x}$

6. Rationalize the denominator. $\frac{15}{2\sqrt{7}-\sqrt{10}}$

- A. $\frac{10\sqrt{7}-5\sqrt{10}}{6}$
- B. $\frac{10\sqrt{7}+5\sqrt{10}}{4}$
- C. $\frac{10\sqrt{7}+5\sqrt{10}}{6}$
- D. $\frac{10\sqrt{7}-5\sqrt{10}}{4}$

7. Multiply. $(2\sqrt{15} + 5\sqrt{3})(-3 + \sqrt{5})$

- A. $-\sqrt{15} - 5\sqrt{3}$
- B. $-11\sqrt{15} - 5\sqrt{3}$
- C. $-11\sqrt{15} - 3\sqrt{5}$
- D. $-\sqrt{15} - 3\sqrt{5}$

8. Simplify. $\sqrt[3]{56x^4y^{10}z^7}$

- A. $2xy^3z^2\sqrt[3]{7xyz}$
- B. $2x^2y^5z^3\sqrt[3]{7z}$
- C. $2xy^3z^2\sqrt[3]{14xyz}$
- D. $2x^2y^5z^3\sqrt[3]{14z}$

9. Simplify. $(x^3)^5 \cdot x^2$

- A. x^{10}
- B. x^{30}
- C. x^{16}
- D. x^{17}

10. Simplify $\frac{a^{10}b^7}{a^3b}$

- A. a^7b^7
- B. a^7b^6
- C. $a^{13}b^7$
- D. $a^{13}b^8$

11. Given that $7\sqrt{2} + x\sqrt{8} = 13\sqrt{2}$, what must the value of x be so that this is a true statement?

- A. 3
- B. 6
- C. 2
- D. 1

12. Given $\frac{7}{\sqrt{a}}$, which value below could be " a " if the denominator was rationalized by multiplying by $\sqrt{3}$?

- A. 6
- B. 18
- C. 9
- D. 12

13. Given that $64^{\frac{a}{b}}$ is a whole number, and that $a - 1 = b$, which could **not** be a possible value of a ?

- A. 3
- B. 4
- C. 6
- D. 7

14. Given that $\frac{(b^4)^x}{b^5} = b^{19}$, what must the value of x be?

- A. 20
- B. 6
- C. 1
- D. 10

15. Given $\sqrt[n]{243x^{20}y^{75}z^{10}}$, which value of n would make this expression a perfect n^{th} root?

- A. 2
- B. 3
- C. 4
- D. 5

Multiple Choice Answers

1. C
2. D
3. B
4. A
5. C
6. C
7. A
8. A
9. D
10. B
11. A
12. D
13. C
14. B
15. D