

**N.RN.A.2: Radicals and Rational Exponents 7**

- 1 Simplify:  $(\sqrt{2} + 1)(\sqrt{2} - 1)$
- 2 Simplify:  $\frac{\sqrt{27} + \sqrt{75}}{\sqrt{12}}$
- 3 Simplify:  $\frac{\sqrt{75} + \sqrt{48}}{\sqrt{27}}$
- 4 Simplify:  $(\sqrt{3} \times \sqrt[3]{2}) \div \sqrt[3]{6}$
- 5 Simplify:  $\sqrt[3]{81} + 2\sqrt[4]{\frac{25}{16}} - \sqrt[3]{192} + 2\sqrt{125}$
- 6 Simplify:  $(2\sqrt{a} - b)(a + 2\sqrt{b})$
- 7 Simplify:  $\sqrt{8a^3b^5}$
- 8 Simplify:  $\sqrt{50x^3y^2}$
- 9 Simplify:  $\sqrt{a^2b - a^3}$
- 10 Simplify:  $\sqrt{a^3b^2 - a^2b^3}$
- 11 Simplify:  $\sqrt{a^2b - 2ab^2 + b^3}$
- 12 Simplify:  $\sqrt{x^3 - 2x^2y + xy^2}$
- 13 Simplify:  $\frac{1}{a+b} \sqrt{a^3 + 2a^2b + ab^2}$
- 14 Simplify:  $\frac{1}{2a+b} \sqrt{4a^2b + 4ab^2 + b^3}$
- 15 Simplify:  $\sqrt{\frac{a^2b}{c}} \times \sqrt{\frac{a^2c^3}{b}}$
- 16 Simplify:  $\left(\frac{x+1}{x-1} \sqrt{\frac{x-1}{x+1}}\right) \left(\sqrt{x^2-1}\right)$
- 17 Simplify:  $\sqrt{9x^5 + 18x^4y} - \sqrt{4xy^6 + 8y^7}$
- 18 Simplify:  $\frac{3}{x-y} \sqrt{\frac{2a}{x-y}} \div \sqrt{\frac{18a^3}{(x-y)^5}}$
- 19 Simplify:  $\sqrt[3]{a^4b^3}$
- 20 Simplify:  $\sqrt[3]{54a^7b^4}$
- 21 Simplify:  $\sqrt[3]{81ab^4}$
- 22 Simplify:  $2\sqrt[3]{16a^3b^4c^5}$
- 23 Simplify:  $\sqrt[6]{8a^3b^6}$
- 24 Simplify:  $\sqrt{\sqrt[3]{a^2}}$
- 25 Simplify:  $\sqrt{a} \times \sqrt[3]{b}$
- 26 Simplify:  $\sqrt{a} \times \sqrt[4]{b}$
- 27 Simplify:  $\sqrt[3]{\frac{128x^6y^2}{81z^4}} \div \sqrt[3]{\frac{16x^3y^2}{3z^7}}$
- 28 Simplify:  $(16a^4b^5 - 8a^6b^3)^{\frac{1}{3}}$

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**Answer Section**

1 ANS:  
1

REF: 089710al

2 ANS:  
4

REF: 089603al

3 ANS:  
3

REF: 089710al

4 ANS:  
 $\sqrt[6]{3}$

REF: 090511al

5 ANS:  
 $11\sqrt{5} - \sqrt[3]{3}$

REF: 010610al

6 ANS:  
 $2a\sqrt{a} + 4\sqrt{ab} - ab - 2b\sqrt{b}$

REF: 090404al

7 ANS:  
 $2ab^2\sqrt{2ab}$

REF: 099602al

8 ANS:  
 $5xy\sqrt{2x}$

REF: 019811al

9 ANS:  
 $a\sqrt{b-a}$

REF: 069812al

10 ANS:  
 $ab\sqrt{a-b}$

REF: 019713al

11 ANS:

$$(a-b)\sqrt{b}$$

REF: 089710al

12 ANS:

$$(x-y)\sqrt{x}$$

REF: 069812al

13 ANS:

$$\sqrt{a}$$

REF: 089603al

14 ANS:

$$\sqrt{b}$$

REF: 039807al

15 ANS:

$$a^2c$$

REF: 099911al

16 ANS:

$$x+1$$

REF: 019911al

17 ANS:

$$(3x^2 - 2y^3)\sqrt{x+2y}$$

REF: 069709al

18 ANS:

$$\frac{(x-y)}{a}$$

REF: 069709al

19 ANS:

$$ab\sqrt[3]{a}$$

REF: 019615al

20 ANS:

$$3a^2b\sqrt[3]{2ab}$$

REF: 019811al

21 ANS:

$$3b\sqrt[3]{3ab}$$

REF: 019713al

22 ANS:

$$4abc \sqrt[3]{2bc^2}$$

REF: 039807al

23 ANS:

$$b^6 \sqrt[6]{8a^3}$$

REF: 069812al

24 ANS:

$$\sqrt[3]{a}$$

REF: 089603al

25 ANS:

$$\sqrt[6]{a^3 b^2}$$

REF: 019713al

26 ANS:

$$\sqrt[4]{a^2 b}$$

REF: 089603al

27 ANS:

$$\frac{2xz}{3}$$

REF: 019811al

28 ANS:

$$2ab \sqrt[3]{2ab^2 - a^3}$$

REF: 069812al