



Radicals - Simplifying Intro

1 Simplify the radical

$$\sqrt{3^2}$$

A

1

B

3

C

4

D

$$4\sqrt{3}$$

2 Simplify the radical

$$\sqrt{3^2 \cdot 7}$$

A

$$4\sqrt{9}$$

B

$$2\sqrt{3}$$

C

$$3\sqrt{7}$$

D

$$\sqrt{8}$$

E

$$6\sqrt{7}$$

3 Simplify the radical

$$\sqrt{3 \cdot 3}$$

A

$$\sqrt{3}$$

B

2

C

3

D

1

4 Simplify the radical

$$\sqrt{16}$$

A

4

B

5

C

6

D

1

E

3

5 Simplify the radical

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

A

$$\sqrt{6}$$

B

2

C

4

D

$$\sqrt{3}$$

E

$$2\sqrt{3}$$

6 Simplify the radical

$$\sqrt{44}$$

A

$$\sqrt{11}$$

B

$$2\sqrt{11}$$

C

$$\sqrt{8}$$

D

$$4\sqrt{12}$$

7 Simplify the radical.

$$\sqrt{5 + 20}$$

A

4

B

$$2\sqrt{3}$$

C

6

D

$$7\sqrt{4}$$

E

5

8 Simplify the radical.

$$\sqrt{11 + 169}$$

A

$$9\sqrt{3}$$

B

6

C

$$5\sqrt{7}$$

D

$$6\sqrt{5}$$

E

$$7\sqrt{4}$$



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9 Simplify the radical.

$$1 + \sqrt{11 + 14}$$

A	6	B	$1 + \sqrt{4}$
C	$1 + \sqrt{2}$	D	7
E	11		

10 Simplify the radical.

$$4 + \sqrt{37 - 5}$$

A	$4 + 3\sqrt{2}$	B	$4 + 4\sqrt{2}$
C	$4 + 6\sqrt{3}$	D	$4 + 5\sqrt{2}$
E	$4 + 2\sqrt{4}$		

11 Simplify the radical.

$$5\sqrt{11 + 14}$$

A	25	B	24
C	$24\sqrt{2}$	D	$24\sqrt{3}$

12 Simplify the radical.

$$5\sqrt{100 - 20}$$

A	$16\sqrt{4}$	B	$21\sqrt{3}$
C	$20\sqrt{5}$	D	$22\sqrt{2}$
E	22		

13 Simplify the radical

$$\sqrt{5^2}$$

A	5	B	2
C	3	D	7

14 Simplify the radical

$$\sqrt{2^2 \cdot 2^2 \cdot 3}$$

A	$5\sqrt{3}$	B	3	C	$4\sqrt{3}$
D	$7\sqrt{5}$	E	$4\sqrt{5}$		

15 Simplify the radical

$$\sqrt{2 \cdot 2}$$

A	$2\sqrt{2}$	B	5	C	2
D	$\sqrt{2}$	E	1		

16 Simplify the radical

$$\sqrt{4}$$

A	2	B	5
C	1	D	$\sqrt{2}$



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17 Simplify the radical

$$\sqrt{2 \cdot 2 \cdot 2 \cdot 2 \cdot 7}$$

A

$2\sqrt{8}$

B

$4\sqrt{7}$

C

$4\sqrt{4}$

D

$2\sqrt{3}$

18 Simplify the radical

$$\sqrt{125}$$

A

$\sqrt{5}$

B

$4\sqrt{2}$

C

$7\sqrt{3}$

D

$5\sqrt{5}$

E

$6\sqrt{2}$

19 Simplify the radical.

$$\sqrt{81 - 17}$$

A

6

B

$7\sqrt{3}$

C

11

D

8

E

$10\sqrt{3}$

20 Simplify the radical.

$$\sqrt{80 + 48}$$

A

$11\sqrt{4}$

B

6

C

$4\sqrt{2}$

D

5

E

$8\sqrt{2}$

21 Simplify the radical.

$$1 + \sqrt{2 + 23}$$

A

$1 + \sqrt{4}$

B

6

C

$1 + \sqrt{2}$

D

$1 + \sqrt{5}$

E

8

22 Simplify the radical.

$$4 + \sqrt{346 - 3}$$

A

$4 + 3\sqrt{4}$

B

$4 + 7\sqrt{7}$

C

$4 + 8\sqrt{4}$

D

$4 + 3\sqrt{5}$

E

$4 + 10\sqrt{3}$

23 Simplify the radical.

$$5\sqrt{4 + 96}$$

A

$52\sqrt{4}$

B

50

C

49

D

47

E

46

24 Simplify the radical.

$$4\sqrt{59 - 11}$$

A

$16\sqrt{3}$

B

15

C

$12\sqrt{3}$

D

$19\sqrt{5}$

E

$15\sqrt{6}$



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25 Simplify the radical

$$\sqrt{5^2 \cdot y^2}$$

A $7y^2$

C $5y^2\sqrt{4}$

E y

B $3y\sqrt{2}$

D $5y$

26 Simplify the radical

$$\sqrt{3^2 \cdot b^2 \cdot b^2}$$

A $b^3\sqrt{3}$

C $3b^2$

B b

D $3b^4\sqrt{3}$

27 Simplify the radical

$$\sqrt{2^2 \cdot 5 \cdot m^2 \cdot m}$$

A $m^2\sqrt{8m}$

C $4m\sqrt{3m}$

E $3m\sqrt{3m}$

B $m\sqrt{3m}$

D $2m\sqrt{5m}$

28 Simplify the radical

$$\sqrt{2^2 \cdot 2^2 \cdot 11 \cdot x^2}$$

A $4x^2\sqrt{12}$

C $4x\sqrt{14}$

B $6x\sqrt{7}$

D $4x\sqrt{11}$

29 Simplify the radical

$$\sqrt{2 \cdot 2 \cdot n \cdot n}$$

A $n\sqrt{3}$

C $2n$

E $n\sqrt{4}$

B $n\sqrt{2}$

D $3n\sqrt{2}$

30 Simplify the radical

$$\sqrt{2 \cdot 2 \cdot c \cdot c \cdot c \cdot c}$$

A $3c\sqrt{3}$

C c

B c^3

D $2c^2$

31 Simplify the radical

$$\sqrt{25c^2}$$

A $4c^2$

C $5c^2$

E $2c^2\sqrt{3}$

B $5c$

D $8c$

32 Simplify the radical

$$\sqrt{25x^2}$$

A $5x$

C x

E $4x^2$

B $6x$

D $5x^2\sqrt{3}$



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33 Simplify the radical

$$\sqrt{2 \cdot 2 \cdot 2 \cdot 2 \cdot 3 \cdot b}$$

A	$7\sqrt{b^3}$	B	$3\sqrt{6b^3}$
C	$6\sqrt{6b}$	D	$3\sqrt{b}$
E	$4\sqrt{3b}$		

34 Simplify the radical

$$\sqrt{2 \cdot 2 \cdot 5 \cdot z \cdot z \cdot z \cdot z \cdot z}$$

A	$z^2\sqrt{z}$	B	$2z^4\sqrt{5z}$
C	$2z^2\sqrt{5z}$	D	$z\sqrt{4z}$
E	$z^3\sqrt{2z}$		

35 Simplify the radical

$$\sqrt{175p}$$

A	$7\sqrt{9p}$	B	$5\sqrt{7p}$
C	$2\sqrt{9p}$	D	$2\sqrt{3p^3}$
E	$5\sqrt{9p}$		

36 Simplify the radical

$$\sqrt{44d^2}$$

A	$d^3\sqrt{13}$	B	$4d^3\sqrt{12}$
C	$2d\sqrt{11}$	D	$4d\sqrt{13}$

37 Convert the radical to a fractional exponent

$$\sqrt{2}$$

A	$6^{\frac{1}{2}}$	B	$2^{\frac{1}{2}}$
C	$4^{\frac{1}{2}}$	D	$2^{-\frac{1}{2}}$

38 Convert the fractional exponent to a radical

$$3^{\frac{1}{2}}$$

A	4	B	$\frac{1}{1}$	C	$3\sqrt{4}$
D	$\sqrt{3}$	E	$\sqrt{6}$		

39 Convert the radical to a fractional exponent

$$\sqrt{7}$$

A	$7^{\frac{1}{3}}$	B	$7^{-\frac{1}{2}}$	C	$21^{\frac{1}{2}}$
D	$7^{\frac{1}{2}}$	E	$28^{\frac{1}{2}}$		

40 Convert the fractional exponent to a radical

$$11^{\frac{1}{2}}$$

A	$\frac{1}{4\sqrt{11}}$	B	$\sqrt{8}$
C	$\sqrt{11}$	D	$\sqrt{14}$
E	$3\sqrt{11}$		



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41 Convert the radical to a fractional exponent

$$\sqrt{7b}$$

A $7^{-\frac{1}{2}} \cdot b^{-\frac{1}{2}}$

B $7^{\frac{1}{2}} \cdot b^{\frac{3}{2}}$

C $7^{\frac{1}{3}} \cdot b^{\frac{1}{3}}$

D $7^{\frac{1}{2}} \cdot b^{\frac{1}{2}}$

E $21^{\frac{1}{2}} \cdot b^{\frac{1}{2}}$

42 Convert the fractional exponent to a radical

$$5^{\frac{1}{2}} \cdot c^{\frac{1}{2}}$$

A $\sqrt{3c^3}$

B $\sqrt{2c}$

C $\sqrt{5c}$

D $\frac{1}{3\sqrt{7c}}$

E $\sqrt{3c^2}$

43 Convert the radical to a fractional exponent

$$\frac{1}{\sqrt{11}}$$

A $11^{\frac{1}{2}}$

B $11^{-\frac{1}{3}}$

C $11^{-\frac{1}{2}}$

44 Convert the radical to a fractional exponent

$$\frac{1}{\sqrt{7}}$$

A $7^{\frac{1}{2}}$

B $7^{-\frac{1}{2}}$

C $7^{-\frac{1}{3}}$

45 Convert the fractional exponent to a radical

$$11^{-\frac{1}{2}}$$

A $\frac{1}{\sqrt{11}}$

B $\frac{1}{\sqrt{14}}$

C $\frac{1}{\sqrt{9}}$

D $3\sqrt{12}$

E $2\sqrt{12}$

46 Convert the fractional exponent to a radical

$$7^{-\frac{1}{2}}$$

A $\frac{1}{\sqrt{4}}$

B $\frac{1}{\sqrt{9}}$

C $\frac{1}{4\sqrt{7}}$

D $\frac{1}{\sqrt{7}}$

E $\sqrt{8}$

47 Convert the radical to a fractional exponent

$$\frac{1}{\sqrt{5y^3}}$$

A $5^{-\frac{1}{3}} \cdot y^{-\frac{3}{3}}$

B $10^{-\frac{1}{2}} \cdot y^{-\frac{3}{2}}$

C $5^{-\frac{1}{2}} \cdot y^{-\frac{3}{2}}$

D $5^{-\frac{1}{2}} \cdot y^{-\frac{4}{2}}$



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48 Convert the fractional exponent to a radical

$$2^{-\frac{1}{2}} \cdot n^{-\frac{3}{2}}$$

A

$$\frac{1}{n^3 \sqrt{n}}$$

B

$$\frac{1}{4n \sqrt{2n}}$$

C

$$\frac{1}{\sqrt{2n^3}}$$

D

$$\frac{1}{3n^2 \sqrt{n^3}}$$

E

$$n^2 \sqrt{n}$$

49 Simplify the radical

$$\sqrt{2 \cdot 3^2}$$

A

$$2\sqrt{2}$$

B

$$1$$

C

$$3\sqrt{2}$$

D

$$6$$

E

$$\sqrt{3}$$

50 Simplify the radical

$$\sqrt{2 \cdot 2 \cdot 2 \cdot 2 \cdot 2}$$

A

$$\sqrt{4}$$

B

$$5\sqrt{3}$$

C

$$4\sqrt{2}$$

D

$$7\sqrt{3}$$

E

$$3$$

51 Simplify the radical

$$\sqrt{99}$$

A

$$5\sqrt{12}$$

B

$$5\sqrt{10}$$

C

$$3\sqrt{8}$$

D

$$6\sqrt{8}$$

E

$$3\sqrt{11}$$