

**Radicals - Addition and Subtraction Intro****1** Add or subtract the radical expressions

$$5\sqrt{2} + \sqrt{2}$$

A

$$6$$

B

$$6\sqrt{2}$$

2 Add or subtract the radical expressions

$$3\sqrt{7} + 5\sqrt{7}$$

A

$$8\sqrt{7}$$

B

$$2\sqrt{7} + \sqrt{5}$$

3 Add or subtract the radical expressions

$$4\sqrt[3]{7} + 2\sqrt[3]{7} - 4\sqrt[3]{7}$$

A

$$2\sqrt[3]{3} + 5\sqrt[3]{9} - 3\sqrt[3]{7}$$

B

$$2\sqrt[3]{7}$$

4 Add or subtract the radical expressions

$$4\sqrt{5n} - \sqrt{5n}$$

A

$$3\sqrt{5n}$$

B

$$\sqrt{8n^2} - 2\sqrt{n}$$

5 Add or subtract the radical expressions

$$3z\sqrt{3} + 4z\sqrt{3}$$

A

$$7z$$

B

$$7z\sqrt{3}$$

6 Add or subtract the radical expressions

$$5z\sqrt{2zr} - 3z\sqrt{2zr} + 2z\sqrt{7}$$

A

$$2z\sqrt{2zr} + 2z\sqrt{7}$$

B

$$2z^3\sqrt{2zr} + 2z\sqrt{7}$$

7 Simplify the radical expressions to prepare for adding or subtracting

$$\sqrt{5} - \sqrt{45}$$

A

$$\sqrt{4} - 3\sqrt{5}$$

B

$$\sqrt{5} - 3\sqrt{5}$$

8 Simplify the radical expressions to prepare for adding or subtracting

$$\sqrt{44} - \sqrt{176}$$

A

$$2\sqrt{11} - 4\sqrt{11}$$

B

$$5\sqrt{9} - 4\sqrt{11}$$

**Radicals - Addition and Subtraction Intro**

- 9** Simplify the radical expressions to prepare for adding or subtracting

$$\sqrt{32} + \sqrt{75} + \sqrt{27}$$

A

$$4\sqrt{2} + 5\sqrt{3} + 3\sqrt{3}$$

B

$$1 + 5\sqrt{3} + 3\sqrt{3}$$

- 10** Simplify the radical expressions to prepare for adding or subtracting

$$\sqrt{50x^2} + \sqrt{2x^2}$$

A

$$4x^3 + x\sqrt{4}$$

B

$$5x\sqrt{2} + x\sqrt{2}$$

- 11** Simplify the radical expressions to prepare for adding or subtracting

$$\sqrt{99} - \sqrt{44}$$

A

$$3\sqrt{11} - 2\sqrt{11}$$

B

$$\sqrt{9} - 2\sqrt{11}$$

- 12** Simplify the radical expressions to prepare for adding or subtracting

$$\sqrt{125n^4x^4} + \sqrt{80n^4x^4} - \sqrt{12x^4}$$

A

$$5n^2x^2\sqrt{5} + 4n^2x^2\sqrt{5} - 2x^2\sqrt{3}$$

B

$$8n^3x^4\sqrt{8} + 4n^2x^2\sqrt{5} - 2x$$

- 13** Add or subtract the radical expressions

$$2\sqrt[3]{7} + 3\sqrt[3]{3} - 3\sqrt[3]{7}$$

A

$$3\sqrt[3]{7} + 3\sqrt[3]{3}$$

B

$$-1\sqrt[3]{7} + 3\sqrt[3]{3}$$

- 14** Add or subtract the radical expressions

$$2\sqrt[3]{3wn^2} - 4\sqrt[3]{3wn^2} + 2\sqrt[3]{5w^2n}$$

A

$$-2\sqrt[3]{3n^2} + 2\sqrt[3]{5w^2n}$$

B

$$-2\sqrt[3]{3wn^2} + 2\sqrt[3]{5w^2n}$$

- 15** Simplify the radical expressions to prepare for adding or subtracting

$$\sqrt{125} - \sqrt{45} + \sqrt{99}$$

A

$$5\sqrt{5} - 3\sqrt{5} + 3\sqrt{11}$$

B

$$5\sqrt{5} - 4\sqrt{7} + 6\sqrt{14}$$

- 16** Simplify, then add or subtract the radical expressions

$$\sqrt{2} + \sqrt{18}$$

A

$$4\sqrt{2}$$

B

$$3\sqrt{3} + 1$$

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- 17** Simplify the radical expressions to prepare for adding or subtracting

$$\sqrt[3]{448z} - \sqrt[3]{81m^4} + \sqrt[3]{24m^4}$$

A $4\sqrt[3]{7z} - 3m\sqrt[3]{3m} + 4m\sqrt[3]{m^2}$

B $4\sqrt[3]{7z} - 3m\sqrt[3]{3m} + 2m\sqrt[3]{3m}$

- 18** Simplify, then add or subtract the radical expressions

$$\sqrt{63} + \sqrt{175}$$

A $8\sqrt{3}$

B $8\sqrt{7}$

- 19** Simplify, then add or subtract the radical expressions

$$\sqrt{99} - \sqrt{63} + \sqrt{176}$$

A $7 - 3\sqrt{7}$

B $7\sqrt{11} - 3\sqrt{7}$

- 20** Simplify, then add or subtract the radical expressions

$$\sqrt{112} + \sqrt{28} - \sqrt{32}$$

A $6\sqrt{7} - 4\sqrt{2}$

B $\sqrt{7} - 4\sqrt{2}$

- 21** Simplify, then add or subtract the radical expressions

$$\sqrt{11p} + \sqrt{44p}$$

A $\sqrt{11p}$

B $3\sqrt{11p}$

- 22** Simplify, then add or subtract the radical expressions

$$\sqrt{112t^4} + \sqrt{175t^4}$$

A $9\sqrt{7}$

B $9t^2\sqrt{7}$

- 23** Simplify, then add or subtract the radical expressions

$$\sqrt{176w^2n^4} - \sqrt{80w^3n^2} + \sqrt{176w^2n^4}$$

A $wn^2\sqrt{11} - 4wn\sqrt{5w}$

B $8wn^2\sqrt{11} - 4wn\sqrt{5w}$

- 24** Simplify, then add or subtract the radical expressions

$$\sqrt[3]{24z^4r^3} + \sqrt[3]{297z^3r^4} - \sqrt[3]{24z^4r^3}$$

A $5zr\sqrt[3]{3z} + 3zr\sqrt[3]{11r}$

B $3zr\sqrt[3]{11r}$

**Radicals - Addition and Subtraction Intro**

25 What integer does this radical expression simplify to?

$$\frac{\sqrt{12}}{\sqrt{3}}$$

A 8	B 3	C 11
D 6	E 2	F 10

26 What integer does this radical expression simplify to?

$$\sqrt{44 \div \frac{4}{11}}$$

A 8	B 1	C 10
D 6	E 11	F 7

27 What integer does this radical expression simplify to?

$$\frac{\sqrt{125}}{\sqrt{5}}$$

A 3	B 6	C 5
D 1	E 13	F 9

28 What integer does this radical expression simplify to?

$$\sqrt{12 \div \frac{16}{12}}$$

A 2	B 3	C 7
D 5	E 6	F 9

29 What integer does this radical expression simplify to?

$$\frac{\sqrt{98} + \sqrt{18}}{\sqrt{50}}$$

A 4	B 7	C 10
D 6	E 5	F 2

30 What integer does this radical expression simplify to?

$$\frac{\sqrt{27} + \sqrt{75}}{\sqrt{12}}$$

A 4	B 5	C 10
D 11	E 7	F 6

31 What does this radical expression simplify to?

$$\sqrt{28 \div \frac{100}{7}}$$

A $\frac{7}{5}$	B $\frac{4}{13}$
C $\frac{7}{4}$	D $\frac{1}{2}$

32 What does this radical expression simplify to?

$$\sqrt{28 \div \frac{300}{21}}$$

A $\frac{3}{4}$	B $\frac{1}{8}$	C $\frac{7}{5}$
D $\frac{2}{3}$	E $\frac{12}{13}$	

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33 What integer does this radical expression simplify to?

$$\frac{\sqrt{98}}{\sqrt{8} + \sqrt{50}}$$

A 1	B 8	C 7
D 3	E 5	F 4

34 What integer does this radical expression simplify to?

$$\sqrt{\frac{33}{2} \div \frac{3}{22}}$$

A 11	B 20	C 7
D 17	E 3	F 13

35 What integer does this radical expression simplify to?

$$\frac{\sqrt{27}}{\sqrt{3} + \sqrt{12}}$$

A 9	B 10	C 1
D 6	E 3	F 4

36 What does this radical expression simplify to?

$$\frac{\sqrt{50}}{\sqrt{8}}$$

A $\frac{7}{5}$	B $\frac{3}{5}$	C $\frac{8}{3}$
D $\frac{9}{4}$	E $\frac{5}{2}$	

37 What integer does this radical expression simplify to?

$$\sqrt{\frac{132}{16} \div \frac{3}{44}}$$

A 9	B 11	C 3
D 2	E 1	F 12

38 What does this radical expression simplify to?

$$\frac{\sqrt{27}}{\sqrt{147}}$$

A $\frac{2}{5}$	B 2	C $\frac{1}{2}$
D $\frac{2}{7}$	E $\frac{3}{7}$	

39 What does this radical expression simplify to?

$$\sqrt{\frac{15}{20} \div \frac{15}{20}}$$

A $\frac{1}{5}$	B 1
C $\frac{1}{4}$	D $\frac{3}{4}$

40 What does this radical expression simplify to?

$$\frac{\sqrt{12} + \sqrt{12}}{\sqrt{27}}$$

A $\frac{4}{3}$	B $\frac{6}{5}$	C $\frac{1}{2}$
D $\frac{4}{7}$	E $\frac{5}{9}$	



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41 What does this radical expression simplify to?

$$\sqrt{\frac{24}{88} \div \frac{44}{12}}$$

A	$\frac{6}{23}$	B	$\frac{2}{5}$	C	$\frac{3}{11}$
D	$\frac{1}{10}$	E	$\frac{7}{19}$		

42 What does this radical expression simplify to?

$$\frac{\sqrt{75} + \sqrt{75}}{\sqrt{147}}$$

A	$\frac{10}{7}$	B	$\frac{7}{4}$	C	$\frac{7}{6}$
D	$\frac{14}{3}$	E	$\frac{17}{14}$		

43 What does this radical expression simplify to?

$$\frac{\sqrt{50}}{\sqrt{8} + \sqrt{50}}$$

A	$\frac{5}{7}$	B	$\frac{11}{17}$	C	$\frac{3}{4}$
D	$\frac{3}{17}$	E	$\frac{5}{8}$		

44 What does this radical expression simplify to?

$$\frac{\sqrt{18}}{\sqrt{50} + \sqrt{8}}$$

A	$\frac{3}{7}$	B	$\frac{5}{9}$	C	$\frac{1}{3}$
D	$\frac{7}{16}$	E	$\frac{4}{3}$		

45 What integer does this radical expression simplify to?

$$\frac{\sqrt{3} + \sqrt{27}}{\sqrt{3} + \sqrt{3}}$$

A	4	B	1	C	6
D	2	E	5	F	7

46 What integer does this radical expression simplify to?

$$\frac{\sqrt{125} + \sqrt{125}}{\sqrt{45} + \sqrt{20}}$$

A	3	B	2	C	9
D	8	E	5	F	6

47 What does this radical expression simplify to?

$$\frac{\sqrt{50} + \sqrt{18}}{\sqrt{50} + \sqrt{50}}$$

A	$\frac{7}{4}$	B	$\frac{2}{7}$	C	$\frac{9}{10}$
D	5	E	$\frac{4}{5}$		

48 What does this radical expression simplify to?

$$\frac{\sqrt{12} + \sqrt{75}}{\sqrt{12} + \sqrt{12}}$$

A	$\frac{4}{3}$	B	$\frac{8}{3}$	C	$\frac{2}{3}$
D	$\frac{7}{4}$	E	$\frac{12}{7}$		