

N.RN.B.3: Simplifying Radicals

- 1 What is $\sqrt{32}$ expressed in simplest radical form?
 - 1) $16\sqrt{2}$
 - 2) $4\sqrt{2}$
 - 3) $4\sqrt{8}$
 - 4) $2\sqrt{8}$

- 2 The expression $\sqrt{50}$ can be simplified to
 - 1) $5\sqrt{2}$
 - 2) $5\sqrt{10}$
 - 3) $2\sqrt{25}$
 - 4) $25\sqrt{2}$

- 3 What is $\sqrt{72}$ expressed in simplest radical form?
 - 1) $2\sqrt{18}$
 - 2) $3\sqrt{8}$
 - 3) $6\sqrt{2}$
 - 4) $8\sqrt{3}$

- 4 When $\sqrt{72}$ is expressed in simplest $a\sqrt{b}$ form, what is the value of a ?
 - 1) 6
 - 2) 2
 - 3) 3
 - 4) 8

- 5 The expression $\sqrt{150}$ is equivalent to
 - 1) $25\sqrt{6}$
 - 2) $15\sqrt{10}$
 - 3) $5\sqrt{6}$
 - 4) $6\sqrt{5}$

- 6 When $5\sqrt{20}$ is written in simplest radical form, the result is $k\sqrt{5}$. What is the value of k ?
 - 1) 20
 - 2) 10
 - 3) 7
 - 4) 4

- 7 What is $2\sqrt{45}$ expressed in simplest radical form?
 - 1) $3\sqrt{5}$
 - 2) $5\sqrt{5}$
 - 3) $6\sqrt{5}$
 - 4) $18\sqrt{5}$

- 8 Which expression is equivalent to $7\sqrt{90}$?
 - 1) $16\sqrt{10}$
 - 2) $21\sqrt{10}$
 - 3) $70\sqrt{9}$
 - 4) $\sqrt{630}$

9 What is $3\sqrt{250}$ expressed in simplest radical form?

- 1) $5\sqrt{10}$
- 2) $8\sqrt{10}$
- 3) $15\sqrt{10}$
- 4) $75\sqrt{10}$

10 What is $\frac{\sqrt{32}}{4}$ expressed in simplest radical form?

- 1) $\sqrt{2}$
- 2) $4\sqrt{2}$
- 3) $\sqrt{8}$
- 4) $\frac{\sqrt{8}}{2}$

11 Simplify: $\sqrt{12}$

12 Simplify: $\sqrt{75}$

13 Simplify: $\sqrt{128}$

14 Simplify: $3\sqrt{27}$

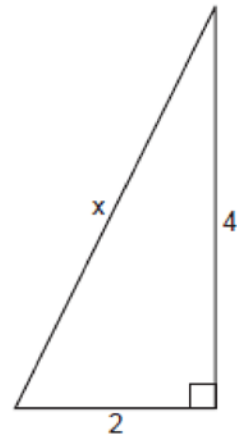
15 Express $-3\sqrt{48}$ in simplest radical form.

16 Express $5\sqrt{72}$ in simplest radical form.

17 Express $4\sqrt{75}$ in simplest radical form.

18 Express $2\sqrt{108}$ in simplest radical form.

19 Theo determined that the correct length of the hypotenuse of the right triangle in the accompanying diagram is $\sqrt{20}$. Fiona found the length of the hypotenuse to be $2\sqrt{5}$. Is Fiona's answer also correct? Justify your answer.



N.RN.B.3: Simplifying Radicals Answer Section

1 ANS: 2

$$\sqrt{32} = \sqrt{16} \sqrt{2} = 4\sqrt{2}$$

REF: 060910ia

2 ANS: 1

$$\sqrt{50} = \sqrt{25} \sqrt{2} = 5\sqrt{2}$$

REF: 089902a

3 ANS: 3

$$\sqrt{72} = \sqrt{36} \sqrt{2} = 6\sqrt{2}$$

REF: 010920ia

4 ANS: 1

$$\sqrt{72} = \sqrt{36} \sqrt{2} = 6\sqrt{2}$$

REF: 010530a

5 ANS: 3

$$\sqrt{150} = \sqrt{25} \sqrt{6} = 5\sqrt{6}$$

REF: spring9819a

6 ANS: 2

$$5\sqrt{20} = 5\sqrt{4} \sqrt{5} = 10\sqrt{5}$$

REF: 080922ia

7 ANS: 3

$$2\sqrt{45} = 2\sqrt{9} \sqrt{5} = 6\sqrt{5}$$

REF: 011203ia

8 ANS: 2

$$7\sqrt{90} = 7\sqrt{9} \sqrt{10} = 21\sqrt{10}$$

REF: 060811a

9 ANS: 3

$$3\sqrt{250} = 3\sqrt{25} \sqrt{10} = 15\sqrt{10}$$

REF: 061106ia

10 ANS: 1

$$\frac{\sqrt{32}}{4} = \frac{\sqrt{16} \sqrt{2}}{4} = \sqrt{2}$$

REF: 060828ia

11 ANS:

$$2\sqrt{3}$$

REF: 039505al

12 ANS:

$$5\sqrt{3}$$

REF: 099602al

13 ANS:

$$8\sqrt{2}$$

REF: 099911al

14 ANS:

$$9\sqrt{3}$$

REF: 099414al

15 ANS:

$$-3\sqrt{48} = -3\sqrt{16}\sqrt{3} = -12\sqrt{3}$$

REF: 081033ia

16 ANS:

$$30\sqrt{2}. 5\sqrt{72} = 5\sqrt{36}\sqrt{2} = 30\sqrt{2}$$

REF: fall0731ia

17 ANS:

$$4\sqrt{75} = 4\sqrt{25}\sqrt{3} = 20\sqrt{3}$$

REF: 011331ia

18 ANS:

$$2\sqrt{108} = 2\sqrt{36}\sqrt{3} = 12\sqrt{3}$$

REF: 081332ia

19 ANS:

Fiona's answer is correct. $\sqrt{20} = \sqrt{4}\sqrt{5} = 2\sqrt{5}$

REF: 080833a