

N.RN.A.2: Simplifying Radicals 1

1 If $a > 0$, then $\sqrt{9a^2 + 16a^2}$ equals

- 1) $\sqrt{7a}$
- 2) $5\sqrt{a}$
- 3) $5a$
- 4) $7a$

2 Simplify: $\sqrt{50r^2s^4}$

3 Simplify: $3\sqrt{18x^3}$

4 Simplify: $\sqrt{8a^3b^5}$

5 Simplify: $\sqrt{50x^3y^2}$

6 Simplify: $\sqrt{a^2x + a^4}$

7 Simplify: $\sqrt{a^2b - a^3}$

8 Simplify: $\sqrt{a^4b^2 - a^2b^4}$

9 Simplify: $\sqrt{a^3b^2 - a^2b^3}$

10 Simplify: $\sqrt{a^2b - 2ab^2 + b^3}$

11 Simplify: $\sqrt{x^3 - 2x^2y + xy^2}$

12 Simplify: $\frac{1}{a+b} \sqrt{a^3 + 2a^2b + ab^2}$

13 Simplify: $\frac{1}{2a+b} \sqrt{4a^2b + 4ab^2 + b^3}$

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Answer Section

1 ANS: 3

$$\sqrt{9a^2 + 16a^2} = \sqrt{25a^2} = \sqrt{25} \sqrt{a^2} = 5a$$

REF: 010422a

2 ANS:

$$5rs^2 \sqrt{2} \cdot \sqrt{50r^2 s^4} = \sqrt{25} \sqrt{2} \sqrt{r^2} \sqrt{s^4} = 5rs^2 \sqrt{2}$$

REF: 080125a

3 ANS:

$$9x\sqrt{2x}$$

REF: 119313al

4 ANS:

$$2ab^2 \sqrt{2ab}$$

REF: 099602al

5 ANS:

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

REF: 019811al

6 ANS:

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

REF: 089312al

7 ANS:

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

REF: 069812al

8 ANS:

$$ab\sqrt{a^2 - b^2}$$

REF: 019415al

9 ANS:

$$ab\sqrt{a-b}$$

REF: 019713al

10 ANS:

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

REF: 089710al

11 ANS:

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

REF: 069812al

12 ANS:

$$\sqrt{a}$$

REF: 089603al

13 ANS:

$$\sqrt{b}$$

REF: 039807al