

Algebra 2 Test 2022 (Radicals Part 2)

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#1 Points possible: 1. Total attempts: 0

Combine the following expressions.

$$4\sqrt{10} + 3\sqrt{10} = \underline{\hspace{2cm}}$$

#2 Points possible: 1. Total attempts: 0

Combine the following expressions.

$$5\sqrt[3]{4} + 8\sqrt[3]{4} = \underline{\hspace{2cm}}$$

#3 Points possible: 1. Total attempts: 0

Combine the following expressions.

$$6x\sqrt{3} - 8x\sqrt{3} + 8x\sqrt{3} = \underline{\hspace{2cm}}$$

#4 Points possible: 3. Total attempts: 0

Combine the following expressions.

$$6\sqrt{48} - 4\sqrt{12} + 4\sqrt{108} = \underline{\hspace{2cm}}$$

#5 Points possible: 3. Total attempts: 0

Combine the following expressions. (Assume any variables under an even root are nonnegative.)

$$7\sqrt[3]{a^8b^5} + 3a^2\sqrt[3]{a^2b^5} = \underline{\hspace{2cm}}$$

#6 Points possible: 3. Total attempts: 0

Combine the following expressions. (Assume any variables under an even root are nonnegative.)

$$6x^4\sqrt{8y^6} - 4y^3\sqrt{32x^8} = \underline{\hspace{2cm}}$$

#7 Points possible: 2. Total attempts: 0

Combine the following expressions.

$$8\sqrt[3]{81} - 8\sqrt[3]{24} = \underline{\hspace{2cm}}$$

#8 Points possible: 2. Total attempts: 0

Multiply:

$$\sqrt{30} \cdot \sqrt{6} = \underline{\hspace{2cm}}$$

#9 Points possible: 2. Total attempts: 0

Multiply:

$$(6\sqrt[3]{5})(4\sqrt[3]{25}) = \underline{\hspace{2cm}}$$

#10 Points possible: 2. Total attempts: 0

Multiply:

$$\sqrt{2}(\sqrt{7} + 2\sqrt{2}) = \underline{\hspace{2cm}}$$

#11 Points possible: 3. Total attempts: 0

Multiply:

$$(\sqrt{5} + \sqrt{7})(4\sqrt{5} - 2\sqrt{7}) = \underline{\hspace{2cm}}$$

#12 Points possible: 3. Total attempts: 0

Multiply (Assume all expressions appearing under a square root symbol represent nonnegative numbers):

$$(\sqrt{x} - 1)(\sqrt{x} + 4) = \underline{\hspace{2cm}}$$

#13 Points possible: 3. Total attempts: 0

Multiply:

$$(\sqrt{3} - 2)^2 = \underline{\hspace{2cm}}$$

#14 Points possible: 3. Total attempts: 0

Multiply (Assume all expressions appearing under a square root symbol represent nonnegative numbers):

$$(\sqrt{x} + \sqrt{7})(\sqrt{x} - \sqrt{7}) = \underline{\hspace{2cm}}$$

#15 Points possible: 3. Total attempts: 0

Rationalize the denominator in the following:

$$\frac{\sqrt{10}}{\sqrt{3} + \sqrt{10}} = \underline{\hspace{2cm}}$$

#16 Points possible: 3. Total attempts: 0

Rationalize the denominator in the following:

$$\frac{\sqrt{7} + 4}{\sqrt{7} - 4} = \underline{\hspace{2cm}}$$

#17 Points possible: 3. Total attempts: 0

Solve for a in $\sqrt{2a + 6} + 4 = 8$.

$$a = \underline{\hspace{2cm}}$$

#18 Points possible: 3. Total attempts: 0

Solve for x in $\sqrt[4]{2x + 4} = 2$.

$$x = \underline{\hspace{2cm}}$$

#19 Points possible: 4. Total attempts: 0

Solve for a in $\sqrt{a + 5} = a + 5$.

$$a = \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$$

#20 Points possible: 5. Total attempts: 0

The following equation will require that you square both sides twice before all the radicals are eliminated. Solve the equation using the methods shown in the examples in the book.

$$\sqrt{y + 10} = \sqrt{y + 1} + 1$$

$$y = \underline{\hspace{2cm}}$$
