Algebra 2 Test 2022 (Radicals Part 2)

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#1 Points possible: 1. Total attempts: 0

Combine the following expressions.

$3\sqrt{2} + 6\sqrt{2} = $ _____

#2 Points possible: 1. Total attempts: 0

Combine the following expressions.

$5\sqrt[3]{4} + 8\sqrt[3]{4} = $ _____

#3 Points possible: 1. Total attempts: 0

Combine the following expressions.

$7y\sqrt{3} - 8y\sqrt{3} + 8y\sqrt{3} = $ _____

#4 Points possible: 3. Total attempts: 0

Combine the following expressions.

$4\sqrt{12} - 6\sqrt{108} + 2\sqrt{108} = $ _____

#5 Points possible: 3. Total attempts: 0

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

$3\sqrt[3]{a^5 b^6} + 5a\sqrt[3]{a^2 b^6} = $ _____

#6 Points possible: 3. Total attempts: 0

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

$4x\sqrt{24xy^8} - 2y^4\sqrt{24x^3} = $ _____

#7 Points possible: 2. Total attempts: 0

Combine the following expressions.

$7\sqrt[3]{16} - 5\sqrt[3]{16} = $ _____

#8 Points possible: 2. Total attempts: 0

Multiply:

$$\sqrt{14} \cdot \sqrt{7} = \underline{\hspace{4cm}}$$

#9 Points possible: 2. Total attempts: 0

Multiply:

$$\left(4\sqrt[3]{7}\right)\left(5\sqrt[3]{49}\right) = \underline{\hspace{4cm}}$$

#10 Points possible: 2. Total attempts: 0

Multiply:

$$\sqrt{2}\left(\sqrt{5} + 4\sqrt{2}\right) = \underline{\hspace{4cm}}$$

#11 Points possible: 3. Total attempts: 0

Multiply:

$$\left(\sqrt{5} + \sqrt{3}\right)\left(2\sqrt{5} - 3\sqrt{3}\right) = \underline{\hspace{4cm}}$$

#12 Points possible: 3. Total attempts: 0

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

$$\left(\sqrt{x} + 3\right)\left(\sqrt{x} + 2\right) = \underline{\hspace{4cm}}$$

#13 Points possible: 3. Total attempts: 0

Multiply:

$$\left(\sqrt{5} - 3\right)^2 = \underline{\hspace{4cm}}$$

#14 Points possible: 3. Total attempts: 0

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

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

#15 Points possible: 3. Total attempts: 0

Rationalize the denominator in the following:

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

#16 Points possible: 3. Total attempts: 0

Rationalize the denominator in the following:

$$\frac{\sqrt{7}+1}{\sqrt{7}-1} = \underline{\hspace{4cm}}$$

#17 Points possible: 3. Total attempts: 0

Solve for x in $\sqrt{3x+1} + 2 = 6$.

$x = \underline{\hspace{4cm}}$

#18 Points possible: 3. Total attempts: 0

Solve for x in $\sqrt[4]{2x+6} = 2$.

$x = \underline{\hspace{4cm}}$

#19 Points possible: 4. Total attempts: 0

Solve for y in $\sqrt{y+3} = y+3$.

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

#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.

$$\sqrt{x-2} = \sqrt{x+6} - 2$$

$x = \underline{\hspace{4cm}}$