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Unit 10 – Radical Expressions and Equations Test

Find the distance between the points: A (2, -2) and B (5,2)

1. (x_1, y_1) (x_2, y_2) $d = ?$
$(2, -2)$ $(5, 2)$

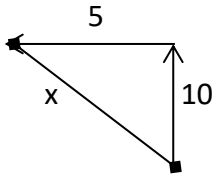
Find the length of the missing side in the following example.

2. $a = 9$ $b = ?$ $c = 20$

Determine whether each set of numbers form a Pythagorean triple.

3. $(6, 8, 10)$

4. Andy walked 10 miles north and 5 miles west. How far is he from his starting point?



Simplify the following expressions.

5. $\frac{5}{5+\sqrt{5}} =$ $\sqrt{36x^5y^8} =$

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6. $\sqrt{6xy}^2 = \sqrt{6^2x^2y^2} =$ $\sqrt[3]{\sqrt{a^3b^2}} =$

Simplify radicals and recognize like or unlike radicals.

7. $\sqrt[3]{250}$; $\sqrt[3]{54}$; $\sqrt[3]{16}$

Perform the indicated operations and simplify your answer. Assume that all variables represent positive real numbers.

8. $\sqrt{\frac{16a^2}{5b}} + 4\sqrt{\frac{4a^2}{5b}} =$

9. $\frac{\sqrt{6}}{2} + \frac{2}{\sqrt{6}} =$

10. $(\sqrt{x} + \sqrt{y})^2 =$

11. $(\sqrt{5} + \sqrt{2})(\sqrt{5} - \sqrt{2}) =$

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Unit 10 – Radical Expressions and Equations Test

Solve the following radical equation.

12. $\sqrt{x^2 + 35} - x + 5 = 0$

Checking solution:

13. $x = \frac{\sqrt{x+3}}{2}$

Checking solution:

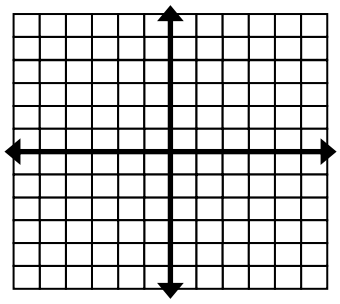
Identify the domain and range of each function.

14. $y = \sqrt{x - 14}$

Domain **Range**

Graph square root function

15. $y = \sqrt{x + 5} - 4$



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Unit 10 – Radical Expressions and Equations Test

Use the description to write the square root function $g(x)$.

16. The parent function $f(x) = \sqrt{x}$ is reflected across the x-axis, and translated down 5 units.

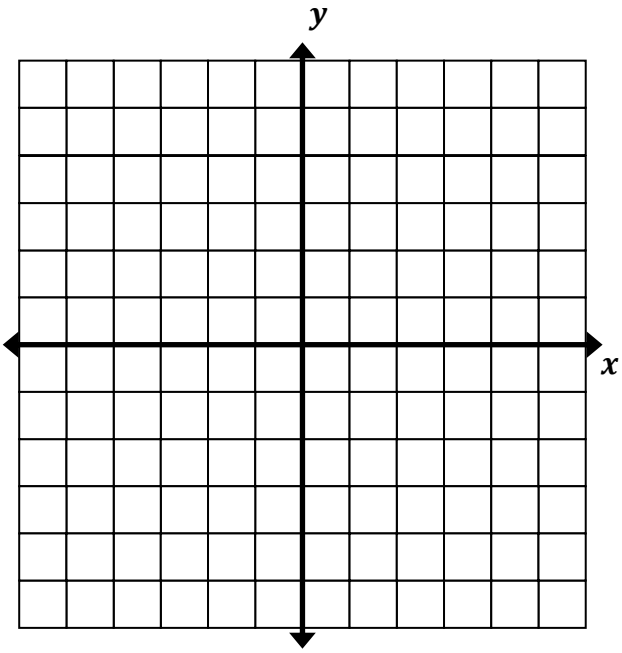
Graph function and identify its domain and range.

17. $y = \sqrt{x+2}$

1.
2. Table

x	y

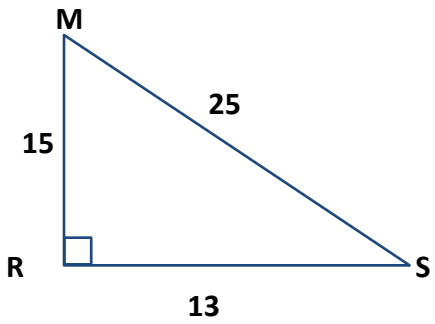
3. Graph



4. Domain Range

Find $sin\angle S$, $cos\angle S$

18.



Find the value of α that makes each statement true.

19. $sin\alpha = cos(\alpha - 48°)$

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Unit 10 – Radical Expressions and Equations Test

20. How would you calculate the length of AB using the information provided? Show all your steps.