REVIEW: Square Roots

Name _____

Key Concept and Vocabulary

A **square root** of a number p is a number whose square is equal to p. Every positive number has a positive *and* a negative square root. A **perfect square** is a number with integers as its square roots.

Positive Square Root: $\sqrt{9} = 3$

Negative Square Root: $-\sqrt{9} = -3$

Both Square Roots: $\pm\sqrt{9} = \pm 3$

Skill Examples

1. $\sqrt{36}$

Because $6^2 = 36$, $\sqrt{36} = 6$.

2. $-\sqrt{144}$

Because $12^2 = 144$, $-\sqrt{144} = -12$.

3. $\pm\sqrt{3.24}$

Because $1.8^2 = 3.24$, $\pm\sqrt{3.24} = -1.8$ and 1.8.

Application Example

4. The area of a square table top is 256 square inches. What is the length of one side of the table top?

$$A = s^2$$
$$256 = s^2$$
$$\sqrt{256} = \sqrt{s^2}$$
$$16 = s$$

The length of one side of the table top is 16 inches.

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Find the square root(s).

5. $-\sqrt{64} =$ _____

6. $\sqrt{121} =$ _____

7. $\pm\sqrt{625} =$ _____

8. $\sqrt{4} =$ _____

9. $\pm\sqrt{289} =$ _____

10. $-\sqrt{196} =$ _____

11. $\sqrt{0.25} =$ _____

12. $-\sqrt{1.69} =$ _____

13. $\pm\sqrt{\frac{16}{49}} =$ _____

14. $-\sqrt{\frac{81}{100}} =$ _____

15. $\pm\sqrt{2.25} =$ _____

16. $\sqrt{\frac{9}{400}} =$ _____

Evaluate the expression.

17. $8\sqrt{9} - 5 =$ _____

18. $7 + 10\sqrt{\frac{1}{25}} =$ _____

19. $\sqrt{\frac{24}{6}} + 3 =$ _____

20. $6.2 + \sqrt{6.76} =$ _____

21. $7(\sqrt{400} - 9) =$ _____

22. $2\left(\sqrt{\frac{147}{3}} - 1\right) =$ _____

23. ROOM The area of the floor of a square room is 441 square feet. What is the length of one side of the floor of the room?

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