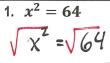
ALL PROBLEMS CAN BE COMPLETED ON THIS WORKSHEET

WS 21.1 – Solving Nonlinear Equations

Solve each equation. If necessary, round to the nearest hundredth.



$$\chi = +8$$

$$2. \quad x^2 = -64$$

$$\sqrt{\chi^2} = \sqrt{-64}$$

3.
$$x^3 = 64$$

4.
$$x^3 = -64$$

$$\sqrt[3]{\chi}^3 = \sqrt[3]{-64}$$

$$\sqrt{\chi} = -4$$

5.
$$x^2 = 81$$

6.
$$x^2 = 15$$

$$\sqrt{\chi^2} = \sqrt{15}$$

7.
$$x^2 = \frac{1}{49}$$

$$\chi = \pm \frac{1}{7}$$

8.
$$x^3 = 125$$

$$\sqrt[3]{\chi^3} = \sqrt[5]{125}$$

$$\chi = 5$$

9. Which expression has a value that is between 6 and 7?

A.
$$\sqrt{24}$$
 ≈ 4.9

A.
$$\sqrt{24}$$
 B. $\sqrt{33}$ ≈ 4.9 ≈ 5.7

$$\begin{bmatrix} c. \sqrt{40} \\ \approx 63 \end{bmatrix}$$

10. Which expression has a value that is between 10 and 11?

A.
$$\sqrt{10.5}$$
 B. $\sqrt{80}$ ≈ 3.2 ≈ 3.9

11. Which expression has a value that is between 9 and 10?

A.
$$\sqrt{80}$$
 B. $\sqrt{101}$ C. $\sqrt[3]{725}$ D. $\sqrt[3]{999}$

12. What is the value of $\sqrt[3]{-220}$, to the nearest integer?

not integers

integer = positive and negative whole numbers

13. Put the following numbers in order from least to greatest.

$$\sqrt[3]{150}$$

$$\sqrt{50}$$

$$\sqrt[3]{150}$$
 $\sqrt{39}$ $\sqrt{50}$ 7. $\sqrt{1}$ ≈ 5.31 ≈ 6.24 ≈ 7.07 = 7. $\sqrt{1}$

14. Which of the following equations does not have a negative solution?

A.
$$x^2 = 32$$
 $\sqrt{\chi^2} = \sqrt{32}$

$$\int_{3}^{8} x^{3} = 164$$

$$C. x^2 = 117$$

$$\chi^2 = 117$$

D.
$$x^3 = -98$$