Objective 4 Test REVIEW

Name_____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Solve the system by substitution or elimination. If a system is inconsistent or has dependent equations, say so.

1) $5x - y = 27$
$2x + y = 15$ 1) _____

2) $-6x + 6y = -6$
$2x + 4y = 2$ 2) _____

3) $x - 4y = 3$
$x = 5 + 4y$ 3) _____

Use a calculator to approximate the root to the nearest thousandth.

4) $\sqrt[3]{-98}$ 4) _____

Evaluate.

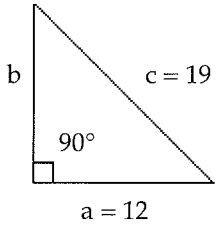
5) $729^{1/3}$ 5) _____

Simplify the expression. Assume that all variables represent positive real numbers.

6) $(-216)^{-4/3}$ 6) _____

Use the Pythagorean formula to find the exact length of side b in the figure.

7) 7) _____



Simplify. Assume that all variables represent positive real numbers.

8) $\sqrt[3]{64a^8b^5}$ 8) _____

9) $(2\sqrt{3} + 10)(6\sqrt{3} - 6)$ 9) _____

Write the fraction in lowest terms.

10) $\dfrac{24 + \sqrt{112}}{4}$ 10) _____

Multiply or divide as indicated.

11) $\sqrt{-2} \cdot \sqrt{-2}$ 11) _____

12) $\frac{\sqrt{-12}}{\sqrt{-4}}$ 12) _____

13) $\frac{\sqrt{-252}}{\sqrt{-7}}$ 13) _____

Rationalize the denominator. Assume that all variables represent positive real numbers.

14) $\frac{7\sqrt{31x}}{\sqrt{x^3}}$ 14) _____

15) $\sqrt{\frac{49}{5}}$ 15) _____

Simplify. Assume that all variables represent positive real numbers.

16) $\sqrt{5x} + 7\sqrt{80x} + 2\sqrt{180x}$ 16) _____

17) $2\sqrt{6} + 9\sqrt{150}$ 17) _____

Use the rules of exponents to simplify the expression. Write the answer with positive exponents. Assume that all variables represent positive real numbers.

18) $\frac{x^{3/5}}{x^{6/5} \cdot x^{-5}}$ 18) _____

19) $\frac{x^{1/2} \cdot x^{3/10} \cdot x^{2/5}}{(x^2)^{-1/2}}$ 19) _____

Solve the equation for the indicated variable. (Leave ± in your answer, when appropriate.)

20) $rm = t^2 - mt$ for t 20) _____

Find an equation of the line passing through the two points. Write the equation in standard form.

21) (-8, 0) and (-3, 4) 21) _____

22) (10, 9) and (10, 1) 22) _____

Solve the equation.

23) $\frac{18}{x-2} = 1 + \frac{20}{x+2}$ 23) _____

Multiply or divide.

24) $\frac{4x-4y}{10-5z} \div \frac{2y-2x}{z-2}$ 24) _____

25) $\dfrac{x^2 - 4}{x^2 - 20x + 100} \div \dfrac{2x - 4}{x^2 - 8x - 20}$ 25) _____

Solve the equation.

26) $x(x - 1) = 42$ 26) _____

Factor by grouping.

27) $10x^2 - 4x - 25x + 10$ 27) _____

28) $12r^2 + 9ry - 4xr - 3xy$ 28) _____

Solve the equation for the indicated variable. (Leave ± in your answer, when appropriate.)

29) $E = mc^2$ for c 29) _____