

Name _____

Math 092
Test 1

1) Find the square root of 64. What is the principal square root?

2) Find the specified functional value if it exists. $f(x) = \sqrt{2 - x^2}$

$$f(4) =$$

$$f(1) =$$

3) Simplify. Remember to use absolute value notation. $\sqrt{x^2 - 6x + 9}$

4) Write an equivalent statement using radical notation simplify if possible:

$$(x - 2)^{\frac{2}{6}} =$$

5) Write an equivalent statement using exponential notation:

$$\sqrt[3]{(x+1)^6} =$$

6) Write an equivalent expression with positive exponents and if possible, simplify.

$$\frac{5(x+1)^{-2}}{6y^{-1}} =$$

7) Multiply: Simplify if possible

$$\sqrt[4]{(x-1)^2} * \sqrt[4]{x^2 - 2x + 1}$$

8) Simplify. Assume no radicands were formed by raising negative numbers to even powers.

$$\sqrt[4]{x^{13} y^8 z^{17}}$$

9) Multiply and Simplify:

$$(\sqrt{14})(\sqrt{21})$$

10) Simplify by taking the roots of the numerator and the denominator. Assume all variables represent positive numbers

$$\sqrt[4]{\frac{16x^4}{b^4c^8}} =$$

11) Divide and if possible simplify. Assume all variables represent positive numbers

$$\frac{\sqrt{40x^3y}}{\sqrt{8xy}} =$$

12) Rationalize the denominator. Assume all variables represent positive numbers.

$$\frac{\sqrt[3]{16}}{\sqrt[3]{25x}}$$

13) Simplify by combining like radical terms. Assume all variables represent positive number

$$8\sqrt{18} - \sqrt{2}$$

14) Multiply and if possible simplify. Assume all variables represent positive numbers

$$(1 + \sqrt{x})^2 =$$

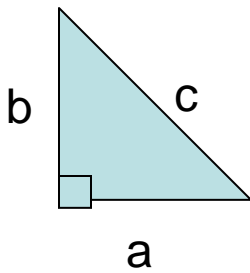
15) Rationalize each denominator. Assume all variables represent positive numbers.

$$\frac{\sqrt{a}}{\sqrt{a} - \sqrt{b}} =$$

16) Solve for y: $(y - 3)^{\frac{1}{2}} = -2$ Justify your answers

17) Solve this equation for x. $3\sqrt{x} = x$

18) Solve the right triangle



2) $a=4$, $b=$, $c=7$