

MS 100 Sample Test 1 (Sections P.1, 1.2-1.5)

01. (04 pts) Evaluate the expression: $-|1| + |-3|$

- a) 2 b) 4 c) -1,3 d) -4

02. (04 pts) Consider the set of numbers: $x > 5$.

- a) Write the set using **interval notation**. b) Is the set **BOUNDED** or **UNBOUNDED**?

03. (06 pts) Here is a verbal description of a set of numbers:

"The set of all numbers x less than 10 and greater than or equal to 5".

- a) Write an inequality that describes this set. b) Describe the set using **interval notation**.

c) Graph the set on the real number line <----- 0 ----->

d) Is the set **BOUNDED** or **UNBOUNDED**?

04. (04 pts) Circle the solution to the equation $5x + 1 = x - \frac{1}{3}$.

- a) -6 b) $\frac{3}{5}$ c) 3 d) $-\frac{1}{3}$

05. (04 pts) Solve the equation $ax + b = 0$ for x . Circle your answer.

- a) $x = \frac{1}{a+b}$ b) $x = \frac{1}{a-b}$ c) $x = \frac{-b}{a}$ d) $x = \frac{a}{b}$

06. (04 pts) What is 7% of 142?

- a) 0.049 b) 994 c) 20.29 d) 9.94

07. (04 pts) If I make \$18,000 per year and my salary is increased by 3%, what is my new salary?

- a) \$18,003 b) \$18,300 c) \$18,540 d) \$54,000

08. (05 pts) A rectangular room has a perimeter of 26 feet. One side is seven feet longer than the other.

a) Find the dimensions of the room. **length** = _____ **width** = _____

b) What is the area of the room(include units)?

09. (04 pts) A rectangular room is 3 times longer than it is wide. The perimeter of the room is 24 meters. Find the dimensions of the room. **length** = _____ **width** = _____

10. (04 pts) Solve the following by **factoring**: $x^2 + 3x = 10$ Solutions $x = \{ \quad \quad \}$

11. (04 pts) Solve the following by using the **Quadratic Formula**: $x^2 - 4x = 6$. Circle the correct answer.

a) 5.16, -1.16

b) $\frac{4 \pm \sqrt{40}}{2}$

c) $\frac{-4 \pm \sqrt{16 - 4(1)(6)}}{2}$

d) -4, -2

12. (04 pts) Solve the following by **extracting square roots**: $(x - 2)^2 = 16$ Solutions $x = \{ \quad \quad \}$

13. (04 pts) A rectangular piece of paper has an area of 66 in^2 . One side of the paper is 5 inches longer than the other. Find the dimensions of the paper: **length** = _____ **width** = _____

14. (04 pts) A rectangular piece of paper has an area of 63 in^2 . One side of the paper is 7 times longer than the other. the dimensions of the paper: **length** = _____ **width** = _____

15. (04 pts) An object is dropped from the top of an 96 ft. building. How many feet above the ground will it be 2 seconds it is dropped? Position equation: $s = -16t^2 + v_0t + s_0$

a) 48 ft.

b) 16 ft.

c) 192 ft.

d) 32 ft.

16. (04 pts) An object is dropped from the top of an 96 ft. building. How many seconds will it remain in the air before it ground?

17. (04 pts) Perform the indicated operation on the complex numbers(give the result in the form $a + bi$):

a) $(4 - 2i) - (2 + 6i)$

b) $(4 - 2i)(2 + 6i)$

c) $(4 - 2i) + (2 + 6i)$

d) $\frac{(4 - 2i)}{(2 + 6i)}$