Physical and Written Employment Test Information

More information: ebmud.com/jobs/job-resources

Plumber 1 roles and responsibilities require qualified applicants to pass both a written and a physical skills-based test for employment consideration. The percentage correct (or pass point) is not preset for written tests. The number varies with each recruitment.

Physical testing – There are 5 components to the physical test. Candidates are required to pass all 5 physical test stations in order to proceed to the hiring interview step.

Written testing – There are three major components of the written test – reading compression, math, and mechanical/spatial ability. The questions below and attached answer key are from the Plumber 1 written test and can be used as a study guide.

Section 1, Reading Comprehension which is made up of reading passages that you will interpret, apply or infer in the corresponding question to measure your understanding, application and analysis skills. Success with reading comprehension questions depends on your ability to obtain the answers from the reading selection and ability to distinguish the best answer from several multiple-choice answers.

Use the passage below to answer the corresponding multiple-choice reading comprehension questions:

Passage 1: Ventilation, as used in fire-fighting operations, means opening a building or structure in which a fire is burning to release the accumulated heat, smoke and gases. Lack of knowledge of principles of ventilation on the part of firemen may result in unnecessary accidents due to ventilation being neglected or improperly handled. While ventilation itself extinguishes no fires, when used in an intelligent manner, it allows firemen to get at the fire more quickly, easily and with less danger and hardship.

1. According to the above paragraph, the most important result of failure to apply the principles of ventilation at a fire may be:

a. loss of public confidence
b. disciplinary action
c. excessive use of equipment
d. injury to firemen

2. It may be inferred from the above paragraph that the chief advantage of ventilation is that it:

a. eliminates the need for breathing equipment
b. reduces smoke damage
c. permits firemen to work
d. cools the fire

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Section 2, Math is made of problems requiring multiple steps to solve. You may be required to use combinations of mathematical functions to solve a specific problem. Test answers are multiple choice.

Use the math information sheet below and sample math testing questions to answer the math questions below. Use of noiseless calculators are allowed during the testing process.

Units and Conversion Factors
1 inch (in) (") = 2.54 centimeters (cm) 1 yard = 3 feet (ft) (') 1 yd^3 = 27 ft^3 1 meter (m) = 100 cm = 1,000 millimeters (mm) = 39.4" 1 acre (a) = 43,560 square feet (ft^2) 1 cubic foot (ft^3) = 7.48 gallons (gal) 1 liter (L) = 1,000 milliliters (ml) 1 gallon = 3.78 L = 3,780 ml 1 quart = .25 gallons 1 pound (lb) = 454 grams (gm) 1 ton = 2,000 lb 1 lb = 7,000 grains (gr) 1 gm = 1,000 milligrams (mg) 1 ppm = 1 part per million

Water Measurements
1 gallon of water weighs 8.34 lb 1 L of water weighs 1,000 gm 1 mg/L = 1 ppm 1 grain per gallon (gpg) = 17.1 ppm 1 atmosphere = 33.9 feet of water = 14.7 pounds/square inch (psi) 1 million gallons per day (MGD) = 1.55 cubic feet per second (cfs) 1 part per billion (ppb) = ppm/1,000 gpm = "gallons per minute"

Formulas for Calculating Angles, Volume and Areas
sides right triangle: $a^2 + b^2 = c^2$ (a = side, b = side, c = long side (hypotenuse) Interior angles of a triangle add up to 180˚ Interior angles of a quadrilateral (square, rectangle, trapezoid, etc.) add up to 360˚ area (A) of a rectangle: A = l·w (l = length, w = width) volume (V) for a box: V = l·w·h (h = height) area of a circle: A = $\pi \cdot r^2$ (π = 3.14, r = radius) volume of a cylinder: V = $\pi \cdot r^2 \cdot h$, and can be expressed in in^3 or ft^3 volume of a cone: V = $\pi \cdot r^2 \cdot 1/3h$, and can be expressed in in^3 or ft^3 π= 3.14; r = radius = diameter/2; h = height

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1. If a customer used 15,200 cubic feet of water, and the District charges $3.00 for every 100 cubic feet, how much will be charged for the water?

   a. $45.60
   b. $456.00
   c. $4,560.00
   d. $45,600.00

2. How many finished parts will a machine make in four hours if it makes six each hour?

   a. 4
   b. 6
   c. 10
   d. 24

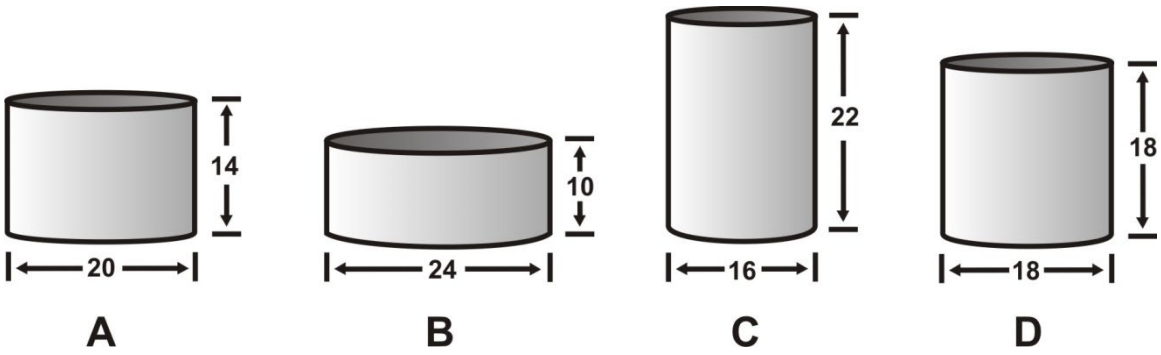
3. What is the volume of a box measuring 10 feet by 80 inches by 1.5 yards?

   a. 1,200 cubic feet
   b. 1,200 cubic yards
   c. 300 cubic feet
   d. 300 cubic yards

Mechanical Ability/Spatial Concepts

Mechanical ability means that you can understand mechanical principles, devices, and tools, spatial relations, and the everyday physics that make them work. These questions show you have the ability to reason and understand the direction of movement of gears in a system of gears.

1. Which tank will hold the greatest amount of water?



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Answer Key for Sample Questions

Answers to Reading Comprehension:

1. d.
2. c.

Answers to Math Problems:

1. b.
2. d.
3. c.

Answers to Mechanical Ability/Spatial Concepts:

1. d.