NONE

Exam Math Review
Treatment Grades I & II
Practice Problems

The Division of Water Quality
makes no claim as the accuracy of
any answers provided herein.

Certification Exam Review
Treatment Grade I & II

Math Problems - Conversions

1. 100 feet of pressure head is how many psi?

2. 750 cubic feet of wastewater is how many gallons?

3. A 10 KW motor will run what horsepower pump?

Math Problems - Areas

1. What is the surface area (in square feet) of a 50 foot diameter clairifer?

2. What is the surface area of a sludge beds that are 225 feet by 300 feet? The beds operates at a depth of 1 foot.

3. After installing a new headworks at a plant, a strip that is 120 feet long and 30 feet wide that must be reseeded with grass. If one bag of grass seed covers 1,000 ft^2. How many bags of seed do you need to buy?

Math Problems - Volumes

1.. How many gallons will an aeration tank 50 feet long by 10 feet wide and 8 feet deep hold?

2. How many cubic feet of wastewater will a 45 foot diameter clairifer with a 8 foot sidewall depth?

3. What is the volume of a trickling filter that is 85 foot in diameter and 6 feet deep?

Math Problems - Times

1. If two 130 gpm pumps are used how, long will it take to de-water a rectangular tank 50 feet long by 20 feet wide and 8 feet deep?

2. If it takes 2 people 10 hours to do a job, how many hours will it take 5 people to do the same job?

3. An orange takes 40 seconds to travel the length of a 30 foot grit channel. What is the velocity of the wastewater in the channel?

Math Problems - Efficiency

1. What is the efficiency of the lift pump motor, if a 10 KW motor is required to run a 10 hp. pump?

2. If a wet well has two 100 gpm pumps in it. How many gallons of wastewater can be pumped a day if one of the pumps is 85% efficient and the other is 75% efficient?

Math Problems - Chlorine Equation

1. What is the chlorine feed rate per day for a flow of 1.5 MGD with a dose rate of 15 mg/L.

2. How many pounds of BOD_5 are removed by a treatment plant daily. The plant flow is 1.4 MGD, the influent BOD_5 is 235 mg/L, and the effluent BOD_5 is 18 mg/L