

# MATH PROBLEMS FOR TERMITE TECHNICIANS

Circle or fill in the Correct Answer:

1. An insecticide label tells you to dilute the concentrate by adding  $\frac{1}{2}$  fl oz. to one gallon of water in order to get a .1% finished mixture. If you want to mix up 3 gallons of finished material at .1% how much concentrate should you add to the 3 gallons of water? \_\_\_\_\_  
\_\_\_\_\_
2. What is the surface area in square feet of the floor in a room 18 feet long and 12 feet wide?  
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3. In a model railroad display a caboose 15 feet long is represented by a scale model 3 inches long. If the same scale is used, a light tower 35 feet high would be represented by a scale model how many inches high?  
\_\_\_\_\_  
\_\_\_\_\_
4. You have three hours to service 20 apartment units. What is the average time in minutes needed to service each unit while keeping precisely to this three hour schedule? \_\_\_\_\_  
\_\_\_\_\_
5. Your vehicle used 15 gallons of gas and traveled 345 miles. What is the gas mileage in miles per gallon?  
\_\_\_\_\_
6. You have calibrated your termite rig and found that it takes 24 seconds to pump one (1) gallon of termiticide through fifty (50) feet of hose, and four (4) foot soil rod at 50 psi. How many seconds will it take to apply 1.75 gallons using the same equipment set up? \_\_\_\_\_  
\_\_\_\_\_
7. An insecticide label tells you to mix 2 and  $\frac{2}{3}$  ounces of concentrate with 1 gallon of water to get a 0.5% dilution. You only need  $\frac{1}{2}$  gallon of diluted material. How many ounces of concentrate should you add with the  $\frac{1}{2}$  gallon of water to get your 0.5% solution? \_\_\_\_\_  
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8. Calculate the gallons per minute that your rig puts out, if your rig puts out 1/4 gallon in 10 seconds? \_\_\_\_\_

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9. An insecticide label tells Mr. Logan to dilute the concentrate by adding 20 ml concentrate material to 1 gallon of water in order to get a 0.25% finished spray. If Mr. Logan wants to mix up 2 gallons of the 0.25% finished spray, how much concentrate should he add to the 2 gallons of water?

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10. A label informs Mr. Gaither that he must apply his material at a rate of 1 (one) gallon per 1600 square feet. If he were to treat an area 35 feet wide by 50 feet long, using the entire gallon, which of the following would be correct:

- a) Mr. Gaither applied more chemical than allowed by the label.
- b) Mr. Gaither applied the correct amount of material as directed on the label.
- c) Mr. Gaither applied less material than directed on the label.

## ANSWERS TO "MATH PROBLEMS FOR TERMITE TECHNICIANS"

1. 1.5 fluid ounces ( $1/2$  fl. oz = .5 fl oz. Then 3 gallons x .5 fl oz = 1.5 oz for 3 gallons)
2. 216 feet ( $L \times W = \text{Square Footage}$  Then  $18 \times 12 = 216$  feet)
3. 7 inches ( $15 \text{ feet} / 3 \text{ inches} = 5$ , therefore the scale is 1 inch = 5 feet, therefore 35 feet divided by 5 equals 7 inches.)
4. 9 minutes a unit ( $3 \text{ hours} = 180 \text{ minutes} / 20 \text{ units} = 9 \text{ minutes a unit}$ )
5. 23 MPG ( $345 \text{ miles} / 15 \text{ gallons} = 23 \text{ miles per gallon}$ )
6. 42 seconds (1 gallon every 24 seconds. Therefore 24 seconds divided by 4 = 6 second to pump a quarter gallon. There are seven (7) quarter gallons in 1.75 gallons  $7 \times 6 = 42$  seconds)
7. 1 and  $1/3$  ounces
8. 1.5 gallons per minute ( $60 \text{ seconds per minute} / 10 \text{ seconds} = 6$ .  $6 \times 1/4 = 1/5$  gallons)
9. 40 ml
10. c ( $35 \text{ feet} \times 50 \text{ feet} = 1750 \text{ feet}$ , the label called for 1500 feet.)