Math 084 Spring 2014 Ch 4 Worksheet
Dressler Mixture v01

Name_____

Solve.

1) How much pure acid should be mixed with 8 gallons of a 50% acid solution in order to get an 80% acid solution?

2) How much pure acid should be mixed with 9 gallons of a 50% acid solution in order to get an 80% acid solution?

3) How much pure acid should be mixed with 3 gallons of a 50% acid solution in order to get an 80% acid solution?

4) A chemist needs 7 liters of a 50% salt solution. All she has available is a 20% salt solution and a 70% salt solution. How much of each of the two solutions should she mix to obtain her desired solution?

5) A chemist needs 4 liters of a 50% salt solution. All she has available is a 20% salt solution and a 70% salt solution. How much of each of the two solutions should she mix to obtain her desired solution?

6) A chemist needs 9 liters of a 50% salt solution. All she has available is a 20% salt solution and a 70% salt solution. How much of each of the two solutions should she mix to obtain her desired solution?

7) The radiator in a certain make of car needs to contain 30 liters of 40% antifreeze. The radiator now contains 30 liters of 20% antifreeze. How many liters of this solution must be drained and replaced with 100% antifreeze to get the desired strength?

8) The radiator in a certain make of car needs to contain 40 liters of 40% antifreeze. The radiator now contains 40 liters of 20% antifreeze. How many liters of this solution must be drained and replaced with 100% antifreeze to get the desired strength?

9) The radiator in a certain make of car needs to contain 70 liters of 40% antifreeze. The radiator now contains 70 liters of 20% antifreeze. How many liters of this solution must be drained and replaced with 100% antifreeze to get the desired strength?

10) The owners of a candy store want to sell, for $6 per pound, a mixture of chocolate–covered raisins, which usually sells for $3 per pound, and chocolate–covered macadamia nuts, which usually sells for $8 per pound. They have a 40–pound barrel of the raisins. How many pounds of the nuts should they mix with the barrel of raisins so that they hit their target value of $6 per pound for the mixture?

11) The owners of a candy store want to sell, for $6 per pound, a mixture of chocolate–covered raisins, which usually sells for $3 per pound, and chocolate–covered macadamia nuts, which usually sells for $8 per pound. They have a 60–pound barrel of the raisins. How many pounds of the nuts should they mix with the barrel of raisins so that they hit their target value of $6 per pound for the mixture?

12) The owners of a candy store want to sell, for $6 per pound, a mixture of chocolate–covered raisins, which usually sells for $3 per pound, and chocolate–covered macadamia nuts, which usually sells for $8 per pound. They have a 30–pound barrel of the raisins. How many pounds of the nuts should they mix with the barrel of raisins so that they hit their target value of $6 per pound for the mixture?

13) The manager of a coffee shop has one type of coffee that sells for $6 per pound and another type that sells for $10 per pound. The manager wishes to mix 60 pounds of the $10 coffee to get a mixture that will sell for $7 per pound. How many pounds of the $6 coffee should be used?

14) The manager of a coffee shop has one type of coffee that sells for $6 per pound and another type that sells for $9 per pound. The manager wishes to mix 80 pounds of the $9 coffee to get a mixture that will sell for $7 per pound. How many pounds of the $6 coffee should be used?

15) The manager of a coffee shop has one type of coffee that sells for $7 per pound and another type that sells for $13 per pound. The manager wishes to mix 70 pounds of the $13 coffee to get a mixture that will sell for $8 per pound. How many pounds of the $7 coffee should be used?

16) The manager of a candy shop sells chocolate covered peanuts for $9 per pound and chocolate covered cashews for $12 per pound. The manager wishes to mix 30 pounds of the cashews to get a cashew–peanut mixture that will sell for $11 per pound. How many pounds of peanuts should be used?

17) The manager of a candy shop sells chocolate covered peanuts for $5 per pound and chocolate covered cashews for $15 per pound. The manager wishes to mix 100 pounds of the cashews to get a cashew–peanut mixture that will sell for $9 per pound. How many pounds of peanuts should be used?

18) The manager of a candy shop sells chocolate covered peanuts for $10 per pound and chocolate covered cashews for $15 per pound. The manager wishes to mix 50 pounds of the cashews to get a cashew–peanut mixture that will sell for $11 per pound. How many pounds of peanuts should be used?

19) Sue took her collection of nickels and dimes to deposit in the bank. She has five fewer nickels than dimes. Her total deposit was $47.45. How many dimes did she deposit?

20) Sue took her collection of nickels and dimes to deposit in the bank. She has five fewer nickels than dimes. Her total deposit was $33.35. How many dimes did she deposit?

21) Sue took her collection of nickels and dimes to deposit in the bank. She has five fewer nickels than dimes. Her total deposit was $39.50. How many dimes did she deposit?

22) Molly has $15.45 in coins. She has five more nickels than dimes. She has eight fewer quarters than dimes. How many quarters does she have?

23) Molly has $11.05 in coins. She has three more nickels than dimes. She has six fewer quarters than dimes. How many quarters does she have?

24) Molly has $16.00 in coins. She has three more nickels than dimes. She has seven fewer quarters than dimes. How many quarters does she have?

25) A newspaper carrier has $3.30 in change. He has two more quarters than dimes but three times as many nickels as quarters. How many coins of each type does he have?

26) A newspaper carrier has $4.80 in change. He has two more quarters than dimes but three times as many nickels as quarters. How many coins of each type does he have?

27) A newspaper carrier has $12.30 in change. He has two more quarters than dimes but three times as many nickels as quarters. How many coins of each type does he have?

28) Keema cashed her paycheck and came home from the bank with $980 in bills of the following denominations: twenties, fives, and hundreds. She has eight times as many fives as twenties and five more hundreds as twenties. How many of each denomination does she have?

29) Keema cashed her paycheck and came home from the bank with $2580 in bills of the following denominations: twenties, fives, and hundreds. She has eight times as many fives as twenties and five more hundreds as twenties. How many of each denomination does she have?

30) Keema cashed her paycheck and came home from the bank with $3380 in bills of the following denominations: twenties, fives, and hundreds. She has eight times as many fives as twenties and five more hundreds as twenties. How many of each denomination does she have?

31) The owners of a candy store want to sell, for $6 per pound, a mixture of chocolate–covered raisins, which usually sells for $3 per pound, and chocolate–covered macadamia nuts, which usually sells for $8 per pound. They have a 70–pound barrel of the raisins. How many pounds of the nuts should they mix with the barrel of raisins so that they hit their target value of $6 per pound for the mixture?

32) Sue took her collection of nickels and dimes to deposit in the bank. She has five fewer nickels than dimes. Her total deposit was $32.30. How many dimes did she deposit?

33) A newspaper carrier has $11.80 in change. He has two more quarters than dimes but three times as many nickels as quarters. How many coins of each type does he have?

1) 12 gal
2) 13.5 gal
3) 4.5 gal
4) 2.8 liters of the 20% solution; 4.2 liters of the 70% solution
5) 1.6 liters of the 20% solution; 2.4 liters of the 70% solution
6) 3.6 liters of the 20% solution; 5.4 liters of the 70% solution
7) 7.5 liters
8) 10.0 liters
9) 17.5 liters
10) 60 lbs.
11) 90 lbs.
12) 45 lbs.
13) 180 pounds
14) 160 pounds
15) 350 pounds
16) 15 pounds
17) 150 pounds
18) 200 pounds
19) 318 dimes
20) 224 dimes
21) 265 dimes
22) 35 quarters
23) 25 quarters
24) 37 quarters
25) 7 quarters, 5 dimes, 21 nickels
26) 10 quarters, 8 dimes, 30 nickels
27) 25 quarters, 23 dimes, 75 nickels
28) 8 hundreds, 3 twenties, 24 fives
29) 18 hundreds, 13 twenties, 104 fives
30) 23 hundreds, 18 twenties, 144 fives
31) 105 lbs.
32) 217 dimes
33) 24 quarters, 22 dimes, 72 nickels