Math 084 W2010 Worksheet 3.1 v02b
Mixture Exercises
Dressler

Name_____

Solve.

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

2) How much pure acid should be mixed with 6 gallons of a 50% acid solution in order to get an 80% acid solution?

3) How much pure acid should be mixed with 5 gallons of a 50% acid solution in order to get an 80% acid solution?

4) A chemist needs 6 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 11 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 10 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 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?

8) 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 50 pounds of the $9 coffee to get a mixture that will sell for $8 per pound. How many pounds of the $6 coffee should be used?

9) The manager of a candy shop sells chocolate covered peanuts for $7 per pound and chocolate covered cashews for $13 per pound. The manager wishes to mix 80 pounds of the cashews to get a cashew–peanut mixture that will sell for $8 per pound. How many pounds of peanuts should be used?

10) Sue took her collection of nickels and dimes to deposit in the bank. She has five fewer nickels than dimes. Her total deposit was $54.50. How many dimes did she deposit?

11) Molly has $3.90 in coins. She has three more nickels than dimes. She has nine fewer quarters than dimes. How many quarters does she have?

12) Molly has $9.25 in coins. She has four more nickels than dimes. She has seven fewer quarters than dimes. How many quarters does she have?

13) Molly has $10.65 in coins. She has two more nickels than dimes. She has nine fewer quarters than dimes. How many quarters does she have?

14) Sue took her collection of nickels and dimes to deposit in the bank. She has five fewer nickels than dimes. Her total deposit was $29.90. How many dimes did she deposit?

15) Sue took her collection of nickels and dimes to deposit in the bank. She has five fewer nickels than dimes. Her total deposit was $62.30. How many dimes did she deposit?

16) The manager of a candy shop sells chocolate covered peanuts for $8 per pound and chocolate covered cashews for $14 per pound. The manager wishes to mix 100 pounds of the cashews to get a cashew–peanut mixture that will sell for $12 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 $10 per pound. The manager wishes to mix 100 pounds of the cashews to get a cashew–peanut mixture that will sell for $7 per pound. How many pounds of peanuts should be used?

18) The manager of a coffee shop has one type of coffee that sells for $5 per pound and another type that sells for $12 per pound. The manager wishes to mix 50 pounds of the $12 coffee to get a mixture that will sell for $10 per pound. How many pounds of the $5 coffee should be used?

19) The manager of a coffee shop has one type of coffee that sells for $5 per pound and another type that sells for $15 per pound. The manager wishes to mix 60 pounds of the $15 coffee to get a mixture that will sell for $9 per pound. How many pounds of the $5 coffee should be used?

20) 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?

21) 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?

22) Keema cashed her paycheck and came home from the bank with $1460 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?

Answer Key
Testname: 03.1V02B

1) 13.5 gal
2) 9 gal
3) 7.5 gal
4) 2.4 liters of the 20% solution; 3.6 liters of the 70% solution
5) 4.4 liters of the 20% solution; 6.6 liters of the 70% solution
6) 4 liters of the 20% solution; 6 liters of the 70% solution
7) 45 lbs.
8) 25 pounds
9) 400 pounds
10) 365 dimes
11) 6 quarters
12) 20 quarters
13) 23 quarters
14) 201 dimes
15) 417 dimes
16) 50 pounds
17) 150 pounds
18) 20 pounds
19) 90 pounds
20) 90 lbs.
21) 60 lbs.
22) 11 hundreds, 6 twenties, 48 fives