

Warm-Up Notes

MAT 100: ELEMENTARY ALGEBRA

Fall 2026

SECTION 3.3 SOLVE MIXTURE APPLICATIONS

Install — 10 minute lesson

Objectives of this Section

- Solve coin word problems
- Solve ticket and stamp word problems
- Solve mixture word problems
- Use the mixture model to solve investment problems using simple interest

Skills

Introduced in this section:

No new skill introduced this section. **Also practiced:** WRD.NM (Naming the model), WRD.EQ (Decoding an explicit equation), EQN.MS (Multi-step Equations).

Lesson

You already know how to find the value of a pile of coins: multiply how many you have by what each one is worth. Today you'll use that same move on stamps, tickets, and stock shares — except this time you won't be told how many of each. You'll only know a total value and a clue about how the two counts relate, and you'll turn that clue into an expression before you ever solve anything.

I do

Watch. Hector spent \$33.20 at the post office. He bought four times as many \$0.41 stamps as \$0.02 stamps. How many of each did he buy?

We do

Together. For the 7:30 show time, 140 movie tickets were sold. Receipts from the \$13 adult tickets and the \$10 senior tickets totaled \$1,664. How many adult tickets and how many senior tickets were sold?

You do

Your turn. Mario invested \$475 in \$45 and \$25 stock shares. The number of \$25 shares was five less than three times the number of \$45 shares. How many of each type of share did he buy?

Your turn. The ball game sold \$1,340 in tickets one Saturday. The number of \$12 adult tickets was 15 more than twice the number of \$5 child tickets. How many of each were sold?

Practice

1. Hilda has \$210 worth of \$10 and \$12 stock shares. The numbers of \$10 shares is five more than twice the number of \$12 shares. How many of each does she have?

2. Solve the coin word problem. Deloise has \$1.20 in pennies and nickels in a jar on her desk. The number of pennies is three times the number of nickels. How many coins of each type does she have?

3. Solve the coin word problem. A cash box of \$1 and \$5 bills is worth \$45. The number of \$1 bills is three more than the number of \$5 bills. How many of each bill does it contain?

4. Solve the coin word problem. Joe's wallet contains \$1 and \$5 bills worth \$47. The number of \$1 bills is five more than the number of \$5 bills. How many of each bill does he have?