



Problem of the Week

Problem B and Solution

Jesse Goes Camping

Problem

Jesse is going camping and is buying her food from three different stores. At each store she pays with a \$20 bill, and is never charged tax.

- a) Without using a calculator, complete the following charts. Round each total amount to the nearest 5 cents before calculating the change.

Store 1		Store 2		Store 3	
Item	Cost	Item	Cost	Item	Cost
Bread	\$2.67	Hotdogs	\$5.00	Yogurt	\$2.67
Milk	\$4.47	Hotdog Buns	\$2.39	Trail Mix	\$4.99
Peanut Butter	\$2.34	Ketchup	\$1.99	Grapes	\$3.64
Jelly	\$2.25	Mustard	\$1.09	Chips	\$3.65
Total	\$11.73	Relish	\$3.34	Total	\$14.95
Rounded	\$11.75	Total	\$13.81	Rounded	\$14.95
Change	\$8.25	Rounded	\$13.80	Change	\$5.05
		Change	\$6.20		

- b) How much money does Jesse have left after buying everything?
- c) Assuming she was given the fewest number of bills and coins possible for her change at each store, how many of each type of bill or coin was Jesse given?

Solution

- a) The completed charts are shown above.
- b) Jesse's total change is $\$8.25 + \$6.20 + \$5.05 = \19.50 .



c) We need to calculate the number of each type of bill or coin Jesse received from each store.

- At Store 1, her change of \$8.25 is one \$5 bill, one \$2 coin, one \$1 coin, and one quarter.
- At Store 2, her change of \$6.20 is one \$5 bill, one \$1 coin, and two dimes.
- At Store 3, her change of \$5.05 is one \$5 bill, and one nickel.

Thus, in total, she would have the following:

\$10 bill:	<u>0</u>	25 cent coin (quarter):	<u>1</u>
\$5 bill:	<u>3</u>	10 cent coin (dime):	<u>2</u>
\$2 coin:	<u>1</u>	5 cent coin (nickel):	<u>1</u>
\$1 coin:	<u>2</u>		