Oak Grove
Math Superstars

Due Dates:

Grade 5

Session 3 - Answers
(50 points total; 10 points deducted if late)

For this session, all the calculations should be performed by hand (i.e. no calculator). Also, make sure to round to the nearest penny (e.g. $0.425 should be rounded to $0.43).

Use the following information to solve the problems below:

Benjamin is going shopping at Kroglix. He needs to buy all of the groceries (food items) and non-food items on the shopping list on the right.

He will pay for all the items using either cash or a credit card. If he uses a credit card, he will get 5% cash back on his monthly credit card statement.

The sales tax rates are 3% for groceries and 7% for everything else.

Kroglix agrees to contribute 1% of the total bill to Oak Grove Elementary.

Shopping list:

Items:	Price:	Quantity:
apples	$0.70/lb	¾ lbs
bananas	$0.92/lb	1.5 lbs
newspaper	$2.50/paper	1 paper
milk	$3.25/gal	3 gal
toilet paper	$0.23/roll	17 rolls
ovaltine	$2.25/box	1 box
eggs	$4.67/dozen	2 dozen
bar soap	$1.29/bar	4 bars

Problem 1 (16 points):
Grader: 12 points for total pre-tax, 4 points for total post-tax: If they got either of these numbers wrong but they completed the table, give 2 points per each correct line item.
How much money does Benjamin need to pay for the groceries before taxes? How much after taxes?

Groceries items:	(1)	(2)	(3)=(1)x(2)	
apples	0.7	0.75	0.53	**2 points**
bananas	0.92	1.5	1.38	**2 points**
milk	3.25	3	9.75	**2 points**
ovaltine	2.25	1	2.25	**2 points**
eggs	4.67	2	9.34	**2 points**
		Total pre-tax	**23.25**	**2 points**
		tax at 3%	0.70	**2 points**
		Total post-tax	**23.95**	**2 points**

Problem 2 (12 points):

Grader: 8 points for total pre-tax, 4 points for total post-tax: If they got either of these numbers wrong but they completed the table give 2 points per each correct line item.

How much money does Benjamin need to pay for the non-food items before taxes? How much after taxes?

non-food items	(1)	(2)	(3)=(1)x(2)	
newspaper	2.5	1	2.50	**2 points**
toilet paper	0.23	17	3.91	**2 points**
bar soap	1.29	4	5.16	**2 points**
Total pre-tax			11.57	**2 points**
tax at 7%			0.81	**2 points**
Total post-tax			12.38	**2 points**

Problem 3 (7 points):

Grader: 7 points for correct calculation (meaning, do not deduct for a flow through error if the initial numbers from Problems 1 or 2 were wrong), 1 point otherwise.

How much change will Benjamin get back if he pays with a $50.00 bill?

```
     50    bill
-    23.95 food items
-    12.38 non-food items
     13.67 change
```

Problem 4 (10 points):

Grader: 5 points for correct credit card charge calculation and 5 points for correct cash back calculation (again, do not deduct for a flow through error if the initial numbers were wrong), 1 point otherwise

If Benjamin decides to pay with a credit card, how much will he pay the Kroglix for his purchase? How much cash back will he receive for this purchase on his credit card statement for this month?

```
     23.95   food items
+    12.38   non-food items
     36.33   credit card charge    5 points

     1.82    cash back @ 5%        5 points
```

Problem 5 (5 points):

Grader: 5 points per correct calculation (again, do not deduct for a flow through error), 1 point otherwise

How much money will Kroglix contribute to Oak Grove Elementary?

```
     23.95   food items
+    12.38   non-food items
     36.33   total

     0.36    contribution to OGE @ 1%
```