

Macy's Discount

Macy's offered a 10% discount on each of its backpacks and then charged 6% sales tax on the reduced price.

A) Fill in the table provided and show your work.

Original price (without tax)	\$30	\$40	\$50
Reduced price (Without Sales tax)			
Final Price (With Sales tax)			

B) For each of the backpacks in part A, What percent of the original price is the final price (reduced price with tax)? Show your work.

C) Taking advantage of this 10% sale, Sally bought 2 backpacks of equal value from this store and paid a total of \$95.40 (including 6% sales tax), What was the original price of each of these backpacks before tax and sales reduction? Show how you found your answer.

D) After the sale was over, the sales clerk took 10% off of the reduced price of each backpack and added this amount back to the reduced price for each backpack. Does this procedure bring the price of each backpack back to the original price? Explain why or why not.

Macy's Discount

10% Discount then 6% sales tax

A)	Original Price w/o tax	\$ 30	\$ 40	\$ 50
	Reduced Price w/o tax	$30 \cdot (.9) = \$27$	$40 \cdot (.9) = \$36$	$50 \cdot (.9) = \$45$
	Final Price w/ tax	$27(1.06) = \$28.62$	$36(1.06) = \$38.16$	$45(1.06) = \$47.70$

B)

\$30 backpack	\$40 backpack	\$50 backpack
$\frac{\$30 - \$28.62}{\$30} = 4.6\%$	$\frac{\$40 - \$38.16}{\$40} = 4.6\%$	$\frac{\$50 - \$47.70}{\$50} = 4.6\%$

C) $\frac{\$95.40}{2} = \47.70 each backpack

sales tax
 $\$47.70 \div 1.06 = \$45 \leftarrow$ price before tax

Discount
 $\$45 \div 0.9 = \$50 \leftarrow$ original price before discount and tax

d) No, this does not bring it back to the original price because the 10% is being taken from the sale price, not the original price.

Example: \$50 original price backpack

\$45 sale price

$\$45 \cdot (0.1) = \$4.50 \leftarrow 10\%$

$\$45 + \$4.50 = \$49.50 \leftarrow$ This does not match the original price of \$50