LESSON MAKER PRO

Price Changes

Track each percent through a real purchase.

GRADE 7 · 7.RP.A.3

7.RP.A.3 "Solve multi-step percent problems in context using proportional reasoning, including simple interest, tax, gratuities, commissions, fees, markups and markdowns, percent increase, and percent decrease."

NAME _____ DATE _____

USE THE CURRENT AMOUNT

To find a percent of an amount, multiply by the percent written as a decimal. After a price changes, use the new price to calculate the next percent. Add taxes and markups, and subtract discounts.

WORKED EXAMPLE

A $35 backpack is marked down 40%. Then 10% sales tax is added to the sale price. What is the final cost?

1. Find the discount: $35 * 0.40 = $14.
2. Find the sale price: $35 - $14 = $21.
3. Find the tax on the sale price: $21 * 0.10 = $2.10.
4. Add the tax: $21 + $2.10 = $23.10.

Answer: $23.10

PRACTICE 6 problems

1 A $60 pair of shoes is 20% off. Then 5% sales tax is added to the sale price. What is the final cost?

ANSWER _____

2 An $80 restaurant bill has 6% tax and a 15% tip. Both are based on the $80 bill. What is the total?

ANSWER _____

3 You deposit $200 in an account that earns 4% simple interest each year. How much is in the account after 3 years if you make no other deposits or withdrawals?

ANSWER _____

4 A shop buys a speaker for $90 and marks up the price by 30%. It then adds a $4 handling fee. What price does a customer pay?

ANSWER _____

5 A $50 game increases in price by 20%, then the new price decreases by 20%. What is its final price?

ANSWER _____

6 A school club earns a 12% commission on $150 in sales, then pays a $3 booth fee. How much does the club keep?

ANSWER _____

APPLY IT Show your work

1 You find headphones priced at $72 for a gaming tournament. A coupon takes 25% off, and the store adds 8% sales tax to the discounted price. How much do you pay?

WORK SPACE

ANSWER _____

2 A skate shop buys a helmet for $32 and marks it up 50%. During a weekend event, the shop takes 25% off the marked price. What is the sale price, and how much more is it than the shop's cost?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A jacket is marked down 20%, then 5% sales tax is added to the sale price. The final cost is $63. What was the original price? Show how you know.

WORK SPACE AND ANSWER

ANSWER KEY

Price Changes

GRADE 7 · 7.RP.A.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A $60 pair of shoes is 20% off. Then 5% sales tax is added to the sale price. What is the final cost?	**$50.40**
2	An $80 restaurant bill has 6% tax and a 15% tip. Both are based on the $80 bill. What is the total?	**$96.80**
3	You deposit $200 in an account that earns 4% simple interest each year. How much is in the account after 3 years if you make no other deposits or withdrawals?	**$224**
4	A shop buys a speaker for $90 and marks up the price by 30%. It then adds a $4 handling fee. What price does a customer pay?	**$121**
5	A $50 game increases in price by 20%, then the new price decreases by 20%. What is its final price?	**$48**
6	A school club earns a 12% commission on $150 in sales, then pays a $3 booth fee. How much does the club keep?	**$15**

PART 2 · APPLY IT

1. **$58.32** The discounted price is $72 * 0.75 = $54. Tax is $54 * 0.08 = $4.32, so the total is $58.32.
2. **Sale price: $36; amount above cost: $4** The marked price is $32 * 1.50 = $48. The sale price is $48 * 0.75 = $36, which is $4 more than the $32 cost.

CHALLENGE

$75. After the discount, the price is 80% of the original. With tax, the final cost is 105% of that sale price, or 84% of the original. Since $63 / 0.84 = $75, the original price was $75.

For the restaurant bill, accept methods that calculate both tax and tip from the original $80. For other problems with two percent changes, the second percent must be applied to the new amount.