

Percent Power Moves

Solve price changes, fees, tips, and interest in steps.

GRADE 7 • 7.RP.A.3

CCSS.Math.Content.7.RP.A.3 "Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error."

NAME _____

DATE _____

BUILD EACH STEP

Find each percent change from the amount at that step. For a decrease, subtract the percent amount. For an increase, add the percent amount. When there are two changes, finish the first change before finding the next one.

WORKED EXAMPLE

A \$64 backpack is marked down 25%, then 6% sales tax is added.
What is the final cost?

1. Find the markdown: 25% of \$64 = \$16.
2. Subtract the markdown: $\$64 - \$16 = \$48$.
3. Find the tax: 6% of \$48 = \$2.88.
4. Add the tax: $\$48 + \$2.88 = \$50.88$.

Answer: \$50.88

PRACTICE 6 problems

- 1** A \$50 water bottle is marked down 20%, then 8% sales tax is added. What is the final price?

ANSWER _____

- 2** A game costs \$36 before a store adds a 15% markup. What is the new price?

ANSWER _____

- 3** A \$30 meal has an 18% gratuity. What is the gratuity amount?

ANSWER _____

- 4** Find the simple interest on \$200 at 3% per year for 2 years.

ANSWER _____

- 5** A pair of shoes was \$80 and is now \$68. What is the percent decrease?

ANSWER _____

- 6** A club charges a base fee plus a 10% processing fee. The total is \$55. What is the base fee?

ANSWER _____

APPLY IT Show your work

- 1** A school dance ticket costs \$40. You use a 15% coupon, and then 7% sales tax is added to the discounted price. What is the final cost of the ticket?

WORK SPACE

ANSWER _____

- 2** A game design club sells 24 sticker packs for \$5 each. An online marketplace keeps 10% of the sales, and the club then pays a \$12 booth fee. How much money does the club have left?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A headset is reduced by 20%, then reduced another 10% of the discounted price. The final price is \$72 before tax. What was the original price? Explain why you do not add the two discounts.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A \$50 water bottle is marked down 20%, then 8% sales tax is added. What is the final price?	\$43.20
2	A game costs \$36 before a store adds a 15% markup. What is the new price?	\$41.40
3	A \$30 meal has an 18% gratuity. What is the gratuity amount?	\$5.40
4	Find the simple interest on \$200 at 3% per year for 2 years.	\$12
5	A pair of shoes was \$80 and is now \$68. What is the percent decrease?	15%
6	A club charges a base fee plus a 10% processing fee. The total is \$55. What is the base fee?	\$50

PART 2 • APPLY IT

1. **\$36.38** The coupon lowers the price by \$6, so the discounted price is \$34. Sales tax is \$2.38, making the total \$36.38.
2. **\$96** The club earns \$120 in sales, and the marketplace keeps \$12. After the \$12 booth fee, the club has \$96 left.

CHALLENGE

Original price: \$100. The discounts are applied one after the other, so the final price is 80% of the original and then 90% of that amount, which is 72% of the original.

Accept equivalent money notation, such as 43.2 for \$43.20, when the value is correct. For the challenge, accept a correct explanation that identifies the second discount as a percent of the already discounted price.