LESSON MAKER PRO

Percent Step Paths

Solve percent changes one step at a time.

GRADE 7 · MA.7.AR.3.1

MA.7.AR.3.1 "Apply previous understanding of percentages and ratios to solve multi-step real-world percent problems."

NAME _____ DATE _____

WORK FROM THE CURRENT AMOUNT

In a multi-step percent problem, find each percent using the amount at that step. A discount subtracts from the amount, while a tax, fee, or increase adds to the amount. Work in order because the second percentage may use a new amount.

WORKED EXAMPLE

A game store marks a $60 controller 15% off, then adds 8% sales tax to the sale price. What is the final cost?

1. Find the discount: 0.15 × 60 = 9.
2. Subtract the discount: 60 - 9 = 51.
3. Find the tax: 0.08 × 51 = 4.08.
4. Add the tax: 51 + 4.08 = 55.08.

Answer: $55.08

PRACTICE 6 problems

1 A $50 game controller is on sale for 20% off. After the discount, 6% sales tax is added. What is the final cost?

ANSWER _____

2 A $40 pair of headphones increases in price by 25%. Then you use a 20% coupon on the increased price. What is the final price?

ANSWER _____

3 A $90 concert ticket is discounted 30%. Then a 10% service fee is added to the discounted price. What is the total cost?

ANSWER _____

4 A science club collects 200 plastic bottles. It sends 35% of them to recycling. Then it uses 20% of the bottles left for an art project. How many bottles remain?

ANSWER _____

5 A player has 150 game coins. The game adds a 20% bonus to the coins. The player then spends 1/4 of the coins. How many coins does the player have left?

ANSWER _____

6 A $250 skateboard increases in price by 12%. Then you use a $30 coupon. What is the final price?

ANSWER _____

APPLY IT Show your work

1 You want to buy sneakers that cost $120. You have a coupon for 25% off, and 6% sales tax is added after the coupon. What is the final cost?

WORK SPACE

ANSWER _____

2 Student council has 300 tickets for a school dance. It sells 40% of the tickets on Friday. On Saturday, it sells 25% of the tickets that remain. How many tickets are still unsold?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A tablet costs $252 after a 20% discount and then 5% sales tax. What was the original price before the discount?

WORK SPACE AND ANSWER

ANSWER KEY

Percent Step Paths

GRADE 7 · MA.7.AR.3.1

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A $50 game controller is on sale for 20% off. After the discount, 6% sales tax is added. What is the final cost?	**$42.40**
2	A $40 pair of headphones increases in price by 25%. Then you use a 20% coupon on the increased price. What is the final price?	**$40.00**
3	A $90 concert ticket is discounted 30%. Then a 10% service fee is added to the discounted price. What is the total cost?	**$69.30**
4	A science club collects 200 plastic bottles. It sends 35% of them to recycling. Then it uses 20% of the bottles left for an art project. How many bottles remain?	**104 bottles**
5	A player has 150 game coins. The game adds a 20% bonus to the coins. The player then spends 1/4 of the coins. How many coins does the player have left?	**135 coins**
6	A $250 skateboard increases in price by 12%. Then you use a $30 coupon. What is the final price?	**$250.00**

PART 2 · APPLY IT

1. **$95.40** Find the sale price, $120 minus 25% of $120, which is $90. Add 6% of $90, or $5.40, to get $95.40.
2. **135 tickets** After Friday, 60% of 300 tickets remain, which is 180 tickets. Selling 25% of 180 means 45 more tickets are sold, leaving 135.

CHALLENGE

$300

Accept equivalent money notation with or without a trailing zero when the value is clear. For the challenge, accept work showing that the final cost is 84% of the original price.