

Percent Price Paths

Use ratios and percents through more than one step.

GRADE 7 • 7.PAR.4.9

7.PAR.4.9 "Use proportional relationships to solve multi-step ratio and percent problems presented in applicable situations."

NAME _____

DATE _____

TRACK EACH STEP

A percent is a part out of 100, so find the percent of the amount at that step. In a multi-step problem, finish one change before using the new amount for the next change.

WORKED EXAMPLE

A \$150 jacket is 20% off. After the discount, 10% sales tax is added. What is the final price?

1. 20% of \$150 = \$30.
2. Discounted price: \$150 - \$30 = \$120.
3. Tax: 10% of \$120 = \$12.
4. \$120 + \$12 = \$132.

Answer: \$132

PRACTICE 6 problems

- 1** A \$56 hoodie is 25% off. Then 5% sales tax is added to the sale price. What is the final cost?

ANSWER _____

- 2** Red and white paint are mixed in a ratio of 3:4. If the total mixture is 49 ounces, how many ounces of each color are used?

ANSWER _____

- 3** A music plan costs \$36 per month. Its price increases by 25%, then a coupon takes 1/5 off the new price. What is the final monthly cost?

ANSWER _____

- 4** A \$70 backpack has a 15% coupon. Shipping costs \$6 after the coupon is applied. What is the final cost?

ANSWER _____

- 5** A club has members in a ratio of 4 artists to 5 coders. There are 63 members total. If 1/4 of the artists are absent, how many artists attend?

ANSWER _____

- 6** A \$45 music subscription is discounted by 40%, then 8% tax is added to the discounted price. What is the final cost?

ANSWER _____

APPLY IT Show your work

- 1** An esports club buys 8 tournament passes at \$14 each. The organizer gives 25% off the total, then adds a 5% processing fee to the discounted total. What is the final cost?

WORK SPACE

ANSWER _____

- 2** A student council orders stickers in a ratio of 6 holographic stickers to 5 matte stickers. It orders 99 stickers total. Holographic stickers cost \$2 each, and matte stickers cost \$1 each. The printer takes 6% off the whole order. What is the final cost?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

An online store raises the price of a \$56 headset by 25%, then reduces the new price by 25%. Is the final price the same as the original price? Explain your reasoning.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A \$56 hoodie is 25% off. Then 5% sales tax is added to the sale price. What is the final cost?	\$44.10
2	Red and white paint are mixed in a ratio of 3:4. If the total mixture is 49 ounces, how many ounces of each color are used?	21 ounces red and 28 ounces white
3	A music plan costs \$36 per month. Its price increases by 25%, then a coupon takes $\frac{1}{5}$ off the new price. What is the final monthly cost?	\$36
4	A \$70 backpack has a 15% coupon. Shipping costs \$6 after the coupon is applied. What is the final cost?	\$65.50
5	A club has members in a ratio of 4 artists to 5 coders. There are 63 members total. If $\frac{1}{4}$ of the artists are absent, how many artists attend?	21 artists
6	A \$45 music subscription is discounted by 40%, then 8% tax is added to the discounted price. What is the final cost?	\$29.16

PART 2 • APPLY IT

1. **\$88.20** The passes cost \$112 before the discount. Subtract the \$28 discount to get \$84, then add a \$4.20 processing fee.
2. **\$143.82** There are 9 equal ratio groups, so the order has 54 holographic and 45 matte stickers for a cost of \$153. The 6% discount is \$9.18, so subtract it from \$153.

CHALLENGE

No. The price rises to \$70, then 25% of \$70 is \$17.50. The final price is \$52.50, which is \$3.50 less than the original price.

Accept equivalent money notation, such as \$37.8 for \$37.80 when applicable. For the challenge, accept explanations that show the second 25% is taken from the increased price.