LESSON MAKER PRO

Percent Paths

Track each change to find the final amount.

GRADE 7 · MT.7.RP.3

MT.7.RP.3 "Use proportional relationships to solve multi-step ratio and percent problems, including problems in context that involve simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease..."

NAME _____ DATE _____

ONE CHANGE AT A TIME

To find a percent change, multiply the current amount by the percent, then add or subtract the result. If another percent change follows, use the new amount, not the starting amount.

WORKED EXAMPLE

A $40 item is marked up 20%, then discounted 5%. What is the final price?

1. Find the markup: 20% of $40 = $8.
2. Add the markup: $40 + $8 = $48.
3. Find and subtract the discount: 5% of $48 = $2.40, so $48 - $2.40 = $45.60.

Answer: $45.60

PRACTICE 6 problems

1 A $60 item is marked up 15%, then discounted 10%. What is the final price?

ANSWER _____

2 Your meal costs $30. You leave an 18% tip and pay a $2 delivery fee. 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?

ANSWER _____

4 A seller earns a 12% commission on a $120 sale plus a $3 bonus. How much does the seller earn?

ANSWER _____

5 You measure a board as 54 cm long. Its actual length is 60 cm. What is the percent error? Use the actual length as the base.

ANSWER _____

6 While visiting a state with a 6% sales tax, you buy a $75 jacket marked down 16%. What is the total after the discount and tax?

ANSWER _____

APPLY IT Show your work

1 At a youth art fair in Browning, on the Blackfeet Reservation, an artist sells 4 prints for $35 each. The fair collects a fee of 10% of sales. The artist also spent $28 to print the artwork. How much money does the artist keep after the fee and printing cost?

WORK SPACE

ANSWER _____

2 For a youth basketball tournament on the Flathead Reservation, a team orders 12 shirts at $15 each. The printer gives a 10% team discount, then charges $9 for delivery. What is the total cost?

WORK SPACE

ANSWER _____

CHALLENGE One step up

At a Montana school fundraiser, a craft kit's price rises 15%, then the new price is discounted 10%. The final price is $103.50. What was the original price? Explain why the total change is not a 5% increase.

WORK SPACE AND ANSWER

ANSWER KEY

Percent Paths

GRADE 7 · MT.7.RP.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A $60 item is marked up 15%, then discounted 10%. What is the final price?	**$62.10**
2	Your meal costs $30. You leave an 18% tip and pay a $2 delivery fee. What is the total?	**$37.40**
3	You deposit $200 in an account that earns 4% simple interest each year. How much is in the account after 3 years?	**$224**
4	A seller earns a 12% commission on a $120 sale plus a $3 bonus. How much does the seller earn?	**$17.40**
5	You measure a board as 54 cm long. Its actual length is 60 cm. What is the percent error? Use the actual length as the base.	**10%**
6	While visiting a state with a 6% sales tax, you buy a $75 jacket marked down 16%. What is the total after the discount and tax?	**$66.78**

PART 2 · APPLY IT

1. **$98** Sales total $140. Subtract the $14 fee and $28 printing cost to get $98.
2. **$171** The shirts cost $180 before the discount. Subtract $18, then add $9 for delivery to get $171.

CHALLENGE

The original price was $100. The discount is 10% of $115, or $11.50, so the final price is $103.50. That is a 3.5% increase from $100, not 5%, because the discount uses the increased price.

Accept equivalent calculations that apply each percent to the correct amount. For percent error, divide the 6 cm difference by the actual length of 60 cm.