LESSON MAKER PRO

Price Change Lab

Estimate first, then calculate the exact amount.

GRADE 8 · 8.CE.1

8.CE.1 "The student will estimate and apply proportional reasoning and computational procedures to solve contextual problems. Estimate and solve contextual problems that require the computation of one discount or markup and the resulting sale..."

NAME _____ DATE _____

FIND THE CHANGE

Find the percentage amount by multiplying the original price by the percent written as a decimal. Subtract a discount from the original price, and add a markup, tax, or tip to the original price. For percent increase or decrease, divide the change by the original amount and multiply by 100.

WORKED EXAMPLE

An art kit costs $72 and is discounted 30%. What is the sale price?

1. Write 30% as 0.30.
2. Find the discount: 72 x 0.30 = 21.60.
3. Subtract the discount: 72.00 - 21.60 = 50.40.

Answer: $50.40

PRACTICE 6 problems

1 Estimate, then find the exact sale price of a $48 jacket that is 25% off.

ANSWER _____

2 Estimate, then find the exact selling price of a $36 phone case with a 15% markup.

ANSWER _____

3 Estimate, then find the sales tax and total cost for a $64 purchase with 6.25% sales tax.

ANSWER _____

_____

4 Estimate, then find the tip and total bill for a $28 meal with a 15% tip.

ANSWER _____

_____

5 A streaming channel had 80 subscribers last month and 100 subscribers this month. Find the percent increase.

ANSWER _____

6 The price of a game controller drops from $120 to $90. Find the percent decrease.

ANSWER _____

APPLY IT Show your work

1 You buy headphones listed at $75. A store gives you a 20% discount, then charges 8% sales tax on the discounted price. Estimate the final cost, then find the exact final cost.

WORK SPACE

ANSWER _____

2 Your gaming club orders snacks that cost $42 before tip. The group leaves a 15% tip. Estimate the total, then find the exact total.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A helmet costs $55. A shop marks it up 20%, then takes 20% off the marked-up price. What is the final price? Is it the same as the original price? Explain using the amounts of the markup and discount.

WORK SPACE AND ANSWER

ANSWER KEY

Price Change Lab

GRADE 8 · 8.CE.1

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Estimate, then find the exact sale price of a $48 jacket that is 25% off.	**Estimate: about $36. Exact sale price: $36.00.**
2	Estimate, then find the exact selling price of a $36 phone case with a 15% markup.	**Estimate: about $40. Exact selling price: $41.40.**
3	Estimate, then find the sales tax and total cost for a $64 purchase with 6.25% sales tax.	**Estimate: total about $68. Exact tax: $4.00. Exact total: $68.00.**
4	Estimate, then find the tip and total bill for a $28 meal with a 15% tip.	**Estimate: total about $32. Exact tip: $4.20. Exact total: $32.20.**
5	A streaming channel had 80 subscribers last month and 100 subscribers this month. Find the percent increase.	**25% increase.**
6	The price of a game controller drops from $120 to $90. Find the percent decrease.	**25% decrease.**

PART 2 · APPLY IT

1. **Estimate: about $65. Exact final cost: $64.80.** The discount is $15, so the sale price is $60. Sales tax is $4.80, and the total is $64.80.
2. **Estimate: about $48. Exact total: $48.30.** The tip is 42 x 0.15, or $6.30. Add the tip to $42 to get $48.30.

CHALLENGE

Final price: $52.80. It is not the same as the original price. The markup is $11.00, but the discount is $13.20 because it is found from the higher marked-up price. The final price is $2.20 lower, a 4% decrease from the original price.

Accept reasonable estimates based on rounding or benchmark percentages. Require money answers to the nearest cent and accept equivalent percent-change reasoning.