02 / STUDENT ACTIVITY

Does the order of discounts matter?

Suggested MYP Years 1-3 | 30 minutes | Percentages

Name: _____ Class: _____ Date: _____

Inquiry question

Is a 20% discount followed by a 10% discount the same as 30% off?

A fictional shop sells an item for 80 currency units. Offer A gives 20% off, then a further 10% off the reduced price. Offer B gives 30% off the original price. There are no taxes or extra fees.

You need: Calculator; paper

1. Predict which offer is better and explain your initial reasoning.

2. Calculate the final price under each offer; represent the changes with a diagram or multipliers.

3. Test other starting prices. Does your conclusion depend on the original price?

4. Reverse the two successive discounts. Explain what changes and what stays the same.

Record your investigation

Use the space below and extra paper for diagrams, tables, calculations and your conclusion.

Exit response: What did you revise, and what evidence changed your mind?

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Teaching purpose

A familiar shopping claim exposes additive reasoning and creates a useful bridge to multiplicative models.

Expected findings / checked solution

Offer A: 80 x 0.8 x 0.9 = 57.60. Offer B: 80 x 0.7 = 56. Offer B costs 1.60 less. The successive discount is 28%, since 0.8 x 0.9 = 0.72. Reversing percentage discounts gives the same final price when both apply to the current price and there are no intermediate rounding rules.

Neutral teacher prompt

What quantity is the second percentage calculated from?

Support

Use a 100-unit starting price before returning to 80.

Extension

For discounts a% and b%, derive the effective discount a + b - ab/100 percent.

Suggested lesson rhythm

Launch for 5 minutes; explore for 15 minutes; compare approaches for 7 minutes; finish with a 3-minute exit response.

Formative evidence

Look for chosen methods, defined variables, independent checks and explanations. These are teaching activities, not IB-issued assessments or automatic criterion scores. Use current school assessment guidance for summative work.

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