LESSON MAKER PRO

Debt in Motion

Track how payments and charges change a card balance.

HIGH SCHOOL · MM.FPM.A.6

MM.FPM.A.6 "Investigate growth and reduction of credit card debt using spreadsheets, including variables such as beginning balance, payment structures, credits, interest rates, new purchases, finance charges, and fees."

NAME _____ DATE _____

TRACK EACH MONTH

In a spreadsheet, use one row for each month. Subtract the payment and credit from the beginning balance, then find interest on what remains. Add the interest, purchases, and fees to get the ending balance for that row and the beginning balance for the next.

WORKED EXAMPLE

Use the row below. Interest is 5% of the balance after payment and credit. Add the purchase and a $2 fee. What is the ending balance?

CARD ACTIVITY

Beginning	Payment	Credit	Purchase
$80	$20	$5	$10

1. 80 - 20 - 5 = 55
2. 55 × 0.05 = 2.75
3. 55 + 2.75 + 10 + 2 = 69.75

Answer: $69.75

PRACTICE 4 problems

1 Begin with $100 and pay $40. Interest is 10% of what remains. There are no other changes. What is the ending balance?

ANSWER _____

2 Begin with $150, pay $60, and get a $30 credit. Interest is 10% of what remains. Then add a $25 purchase. What is the ending balance?

ANSWER _____

3 Begin with $200 and pay $50. Interest is 4% of what remains. Then add a $35 purchase and a $3 fee. What is the ending balance?

ANSWER _____

4 Begin with $90, pay $30, and get a $15 credit. Interest is 20% of what remains. Then add a $45 purchase. What is the ending balance?

ANSWER _____

APPLY IT Show your work

1 Your card starts at $240. You pay $100, get a $40 refund for earbuds, and buy a $60 game. Interest is 3% of the balance after payment and refund. A $4 fee is added. What is the ending balance?

WORK SPACE

ANSWER _____

2 You use your card to buy a laptop. Use the rows below to track two months. Each month, interest is 10% of the balance after payment. There are no other changes. What is the ending balance after month 2?

LAPTOP PAYMENTS

Month	Beginning balance	Payment
1	$300	$120
2	Month 1 ending balance	$90

ANSWER _____

CHALLENGE One step up

A card starts at $400. Interest is 10% of the balance after each monthly payment, with no other changes. Plan A pays $100 each month. Plan B pays $200 in month 1 and nothing in month 2. Which plan leaves less debt after month 2, and by how much?

WORK SPACE AND ANSWER

ANSWER KEY

Debt in Motion

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Begin with $100 and pay $40. Interest is 10% of what remains. There are no other changes. What is the ending balance?	**$66**
2	Begin with $150, pay $60, and get a $30 credit. Interest is 10% of what remains. Then add a $25 purchase. What is the ending balance?	**$91**
3	Begin with $200 and pay $50. Interest is 4% of what remains. Then add a $35 purchase and a $3 fee. What is the ending balance?	**$194**
4	Begin with $90, pay $30, and get a $15 credit. Interest is 20% of what remains. Then add a $45 purchase. What is the ending balance?	**$99**

PART 2 · APPLY IT

1. **$167** The balance after payment and refund is $100, so interest is $3. Add the $60 purchase and $4 fee to get $167.
2. **$118.80** Month 1 ends at ($300 - $120) × 1.10 = $198. Month 2 ends at ($198 - $90) × 1.10 = $118.80.

CHALLENGE

Plan B leaves $242, which is $11 less than Plan A's $253.

Apply interest after subtracting payments and credits. For the challenge, accept a comparison showing both ending balances and the $11 difference.