Handout 02.11: Interest Math Practice

Name: __________________ Date: ________ Partner: __________________

Rates on this sheet are typical for 2026 and marked [update]. The people are made up.

My do now guess: a $500 phone at $25 a month on a store card will cost $________ in total.

Part A: Debit vs credit, side by side

	Debit card	Credit card
Whose money is it?		
When does it leave?		
Is there a bill?		
Is there interest?		
What if the card is stolen?		
Does it build a credit score?		

Credit is ____

Debt is ____

Interest is ____

Part B: Simple interest on $500

The formula: I = P x r x t (interest = amount borrowed x rate as a decimal x years)

Rates as decimals: 5 percent = 0.05. 15 percent = 0.15. 24 percent = 0.24.

Worked example: $500 at 5 percent for 1 year. $500 x 0.05 x 1 = $25. Total owed: $500 + $25 = $525.

Rate *[update]*	What it is like	One year: interest	One year: total owed	Three years: interest	Three years: total owed
5 percent	a good car loan	$500 x 0.05 x 1 = $_____	$_____	$500 x 0.05 x 3 = $_____	$_____
15 percent	a credit union card	$500 x 0.15 x 1 = $_____	$_____	$500 x 0.15 x 3 = $_____	$_____
24 percent	a typical bank credit card	$500 x 0.24 x 1 = $_____	$_____	$500 x 0.24 x 3 = $_____	$_____

At which rate does three years of interest cost more than half the phone? ___________

(Grade 6: one-year columns only.)

Part C: Two more loans

1. Ines borrows $1,200 on a store card at 15 percent *[update]* and pays nothing for two years. Interest: $_____ x _____ x _____ = $_____. Total owed: $_____.

2. A used car loan: $8,000 at 5 percent *[update]* for four years. Interest: $_____ x _____ x _____ = $_____. Total paid: $_____.

3. Which loan cost more in dollars? _____ Which cost more as a percent of what was borrowed? _____ How can both be true?

Part D: The minimum payment trap

Leo puts a $500 phone on a credit card at 24 percent APR [update]. That is 2 percent a month. Each month the card adds 2 percent of the balance, then his payment comes off.

The first three months at $25 a month (follow along on the board):

Month	Balance at start	Add 2 percent	Pay $25	Balance at end
1	$500.00	$10.00	$25.00	$485.00
2	$485.00	$9.70	$25.00	$469.70
3	$469.70	$9.39	$25.00	$454.09

Three months in, Leo has paid $75 and still owes $454.09. Copy the finished results from the slide:

Plan	Months to pay off	Total interest	Total paid for the $500 phone
$25 a month (the minimum)			
$50 a month			
Paid in full the first month			

My recommendation (two sentences, with the numbers):

My do now guess was $_____. The real number was $_____. I was off by $_____.

Part E: The credit score, in one paragraph

A credit score is a number from _____ to _____ that shows ___________________________.

It goes up when I ______________________________ and ______________________________.

It goes down when I ______________________________ or ______________________________.

It matters because _________________________, _________________________, and sometimes _________________________ look at it.

Grade 8 stretch

1. Do months 4 and 5 of the $25 plan by hand and check them against the pattern.
2. What monthly payment would clear the $500 in ten months? (Try $55, then $56.) About how much interest is that?
3. Three cards: a bank card at 24 percent, a store card at 29 percent, a credit union card at 15 percent [update]. A person with a good score should pick ____________ because _________________________.

Exit card (3-2-1)

3 differences between credit and debit: _____________, _____________, _____________

2 things that move a credit score: _____________, _____________

1 number: the total cost of the $500 phone at $25 a month: $_______

Teacher key

Part A: Debit: your money; right now; no bill; no interest; a stolen card drains your account; no. Credit: the bank's money, borrowed; when you pay the bill; yes, every month; yes, if not paid in full; you can dispute the charge and the bank's money is at risk; yes. Credit is borrowing money with a promise to pay it back. Debt is money you owe. Interest is the price of borrowing (or, on savings, the price the bank pays you; Lesson 2.12).

Part B: 5 percent: $25, $525; $75, $575. 15 percent: $75, $575; $225, $725. 24 percent: $120, $620; $360, $860. Three years costs more than half the phone ($250) at 24 percent ($360); at 15 percent it is $225, just under.

Part C: 1. $1,200 x 0.15 x 2 = $360; total $1,560. 2. $8,000 x 0.05 x 4 = $1,600; total $9,600. 3. The car loan cost more in dollars ($1,600 vs $360); the store card cost more as a percent (30 percent of what was borrowed over two years vs 20 percent over four years). Both are true because the car loan is bigger and longer; the rate tells you the price per dollar per year, the dollars tell you the bill.

Part D: $25 a month: 26 months; $144.94 interest; $644.94 total. $50 a month: 12 months; $63.50 interest; $563.50 total. Paid in full: 1 month; $0; $500. Recommendation, "got it" example: "Pay $50 a month because it is done in 12 months and costs $63.50 in interest instead of $144.94. Paying it off in full is better still if he has the $500." Month-by-month check for the stretch: month 4: $454.09 + $9.08 = $463.17 minus $25 = $438.17; month 5: $438.17 + $8.76 = $446.93 minus $25 = $421.93.

Part E: 300 to 850; how well you have paid people back; pay on time every month, use a small part of the limit; pay late, max out a card (also applying for too much at once); a landlord, a car lender, an employer.

Grade 8 stretch: 2. About $56 a month clears it in ten months; total paid about $557, so interest about $57. 3. The credit union card at 15 percent; the lowest rate costs the least if a balance is ever carried.

Exit: any three from Part A; any two from Part E; $644.94.