Interest Rate and Amortization Calculations

Task #1
Two friends are looking to purchase a new home. They are doing some research before buying to determine the impact of different interest rates.

They have found a new one-bedroom condo in downtown Toronto and have been pre-approved for a mortgage.

- The condo costs $945,000.00.
- They have saved 20% for a down payment- $189,000.00.

They have been approved by two banks.

Here is what was offered:
Bank A: Pre-approved at 2.38% interest rate on a 25-year fixed mortgage
Bank B: Pre-approved at 2% interest rate on a 30-year fixed mortgage

Bank A
Step 1
Calculate the dollar amount that they need to borrow from the bank for the mortgage. (cost of the condo- the down payment) Use an online mortgage calculator to determine the monthly payment for a 25-year fixed mortgage at 2.38% interest rate.

Interest Rate and Amortization Calculations	
Down payment as a %	20% of $945,000.00
Down payment in dollars	$189,000.00
Mortgage (cost of new condo – down payment)	$
Monthly mortgage payment	$

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Step 1
How much total interest will they pay over the course of the mortgage? (Hint: You will need to locate the "Amortization Schedule" or "Amortization")

Interest Rate and Amortization Calculations	
Total interest paid over 25 years with 20% down	$

Bank B
Step 1
Calculate the dollar amount that they need to borrow from the bank for the mortgage. (cost of the condo- the down payment) Use an online mortgage calculator to determine the monthly payment for a 30-year fixed mortgage at 2% interest rate.

Interest Rate and Amortization Calculations	
Down payment as a %	20% of $945,000.00
Down payment in dollars	$189,000.00
Mortgage (cost of new condo – down payment)	$
Monthly mortgage payment	$

Step 2
How much total interest will they pay over the course of the mortgage? (Hint: You will need to locate the "Amortization Schedule" or "Amortization")

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Interest Rate and Amortization Calculations	
Total interest paid over 30 years with 20% down	$

Friend A said it's obvious what they should do. They should go with the lower interest rate because they will pay less on the money they borrow.

Friend B said they should go for the higher interest rate because they will have the mortgage paid back sooner.

Compare the total interest paid over 30 years at 2% with the total interest paid over 25 years at 2.38%.

Consider the monthly mortgage payment for each plan.

Explain which deal you think the friends should take. Justify your thinking. Be sure to include your calculations of total interest paid and monthly mortgage payments to support your reasoning.