## UNIT 7

## List the following for the given rational <br> $$
f(x)=\frac{(x-3)(x+2)}{(x-3)(x-1)}
$$

Holes:
VA:
x-int:
$y$-int:
HEB:

## Rational Inequality

Find where $\frac{4 x-2}{x-3} \leq 0$

## UNIT 8

# The first term of a sequence is 5 and the common difference is 3 . 

Write the explicit equation for the pattern.

Find the 8th term of the sequence

Find the sum of the first 8 terms

The number of bacteria after a given amount of time is modeled by the equation $B=42 e^{.401 t}$

What is the initial amount of bacteria present?

How much bacteria is there after 11 hours?

## Write a summation notation.

Jerry does 3 crunches the first day, 6 the second day, and 12 the third day. Write using summation notation how many crunches Jerry will do from day 1 to day 20.

## If Johnny deposits $\$ 300$ compounding monthly at a $3.5 \%$ interest rate, how much money will he have after 5 years?

Jillian deposits $\$ 5000$ into an account compounding continuously at a $4.3 \%$ interest rate. How much money will she have after 7 years?

## UNIT 9

How long will it take for a $\$ 4500$ investment to reach $\$ 6000$ compounding continuously at a 4.9\% interest rate?

$$
\begin{aligned}
& \text { Write in log form } \\
& 2^{x}=6 \quad e^{7}=a \quad 10^{c}=w
\end{aligned}
$$

Write in exponent form
$\ln 6=a \quad \log _{4} 64=3 \quad \log 100=2$

# Expand using log properties. Write all coefficient as exponents. 

$$
\ln \frac{a \sqrt[3]{b}}{c^{5}}
$$

$$
\begin{aligned}
& \text { Write as a single logarithm } \\
& \left(3 \log _{4} x+\log _{4} y\right)-\frac{1}{3} \log _{4} z
\end{aligned}
$$

## Solve.

$$
\log _{5}(x-7)=\log _{5} 2
$$

