

Warm Up: Pre-Calc

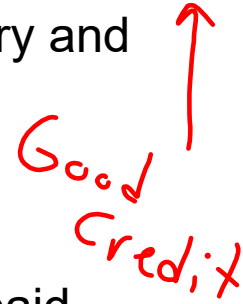
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Hector bought a Ford Explorer on January 1st 2018, for \$32,140. He took out a sixty month loan at 3.75%. Assume he paid his first month in January and compounded monthly.

Calculate the following:

- 1) The total cost of the Ford explorer.
- 2) The amount that Hector has already paid.
- 3) The amount Hector has yet to pay.
- 4) The amount that the car is worth is \$22,000.

Good
Credit



Feb 27-7:39 AM

Solutions to Warm Up: Pre-Calc

Feb 27-7:39 AM

W.A.L.T.:


Day 9

Calculate interest compounded continuously.

W.A.S.I.:We can use this thing called e , and calculate interest compounded continuously.

Mar 7-9:45 AM

Notes!!! Continuous compound interest**Continuously Compounded Interest Formula**

$$A = Pe^{rt}$$


 A = amount in account P = principal invested r = annual interest rate as a decimal t = number of years

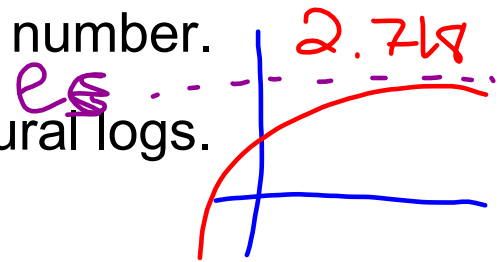
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Notes!!! What is the what is e ? e

Is known as Euler's number.

It is the base of natural logs.

It is roughly 2.718



It comes from this.

$$\left(1 + \frac{1}{n}\right)^n \text{ as } n \rightarrow \infty.$$

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In Class Work: pg. 55 #1 - 2

The exponential function $A(t) = Pe^{rt}$, where P is the principal, r is the interest rate, t is time, and e is a constant with a value of 2.718281828459..., is used to calculate a quantity (most frequently money) that is *compounded continuously* (that is, the number of compounding periods approaches infinity).

- Find the amount of money in an account after 20 years if the principal is \$50,000 and the nominal rate is 5% compounded continuously. Compare this answer to your answers in Item 7 of Lesson 4-2.

$$\$135,914.09$$

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Today's Activities:

- Notes continuously compounded interest.

P.W. for tonight:

- pg. 55 - 56 #1, 2, 5 - 10

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