Depreciation 5.16.17

NO CELL PHONES ON TEST. MAYBE BRING YOUR OWN CALC.

Warm up: 2 interest problems and go over HW

I am sure you all heard about how a car is worth 70% of its value the second it is driven off the lot. This is called depreciation and it is a model of exponential decay.

$y = C(1 - r)^t$ Where C is the initial amount r is the rate and t is time.

Example 1: In 1950 the amount of coal used residentially and commercially was 114,600,000 tons. Residents and companies are now using cleaner coal. As a result the use of coal has decreased by 6.6% per year.

How much coal was used in 2015?

2015-1950=65. So our equation becomes $y = 114600000(1 - 0.066)^{65}$

We can use our calculators to calculate this quickly.

In 2015 Approximately 1,350,000 tons of coal were used.

Billy-Bob buys a tractor for $50,000 to plow his fields and plant his corn. The tractor depreciates 10% every year. How much will the tractor be worth in 7 years

$y = C(1 - r)^t$ Which becomes $y = 50000(1 - .10)^7$ And we can calculate that out.

You try: A car sells for $16000. If the rate of depreciation is 18%, find the value of the car in 8 years?

Create and pass

HW: PG 564 #17, 18, 25-28 PG 571 # 35-37, 46-48