

END OF OIL

CHOSEN
VALUES!

• CONSUMPTION THIS YEAR: 32 BILLION BARRELS

• GROWTH RATE OF CONSUMPTION: 1.7% / YEAR

• TOTAL RESERVES: 2 TRILLION BARRELS IN EARTH

END OF OIL HAPPENS WHEN:

TOTAL OIL IN EARTH = SUM OF EACH YEARS' CONSUMPTION

$$2,0(10^{12}) = \frac{t_1(1-r^n)}{1-r}$$

$$t_1 = 3,2(10^{10})$$

$$r = 1,017$$

n = THE UNKNOWN # OF YEARS

$$2,0(10^{12}) = \frac{3,2(10^{10})(1-1,017^n)}{1-1,017}$$

$$\frac{2,0(10^{12})(-0,017)}{3,2(10^{10})} = 1 - 1,017^n$$

$$-1,06 = 1 - 1,017^n$$

$$2,06 = 1,017^n$$

STUDENTS CAN GUESS/CHECK w/ CALL FOR n OR
USE LOGARITHMS

$$\log 2,06 = n \log 1,017$$

$$\frac{\log 2,06}{\log 1,017} = n = \boxed{42,89 \text{ YEARS}}$$