

QUESTIONS / REVIEW

CHAPTER I:

1. "HUMAN BEINGS CREATE PHYSICAL SCIENCE." IS THERE, THEN NO PHYSICAL REALITY OUTSIDE OURSELVES?

5. 3 CARS: YOU ARE IN CAR 1, GOING 60 MPH DOWN THE HIGHWAY. CAR # 2 LOOKS TO YOU AS IF IT IS STANDING STILL.

AN OBSERVER ON THE SIDE OF THE ROAD MEASURES #2'S SPEED AS 60 MPH?

CAR # 3 PASSES YOU ON THE LEFT, AND IT LOOKS TO YOU AS IF IT IS GOING 15 MILES PER HOUR FASTER THAN YOU

HOW FAST DOES THE GUY ON THE SIDE OF THE ROAD MEASURE FOR CAR # 3 75 MPH?

BONUS: CAN YOU ASK "HOW FAST IS CAR # 3" WITHOUT REFERRING TO WHO IS ASKING?

CHAPTER I:

13. WHAT IS THE PERIOD IN HOURS OF THE APPARENT MOTION OF THE SUN AROUND THE EARTH? 24 Hours

MIN. HAND: 1 HOUR STARS AROUND THE EARTH? 24 Hours

HOUR HAND: 12 HOURS.

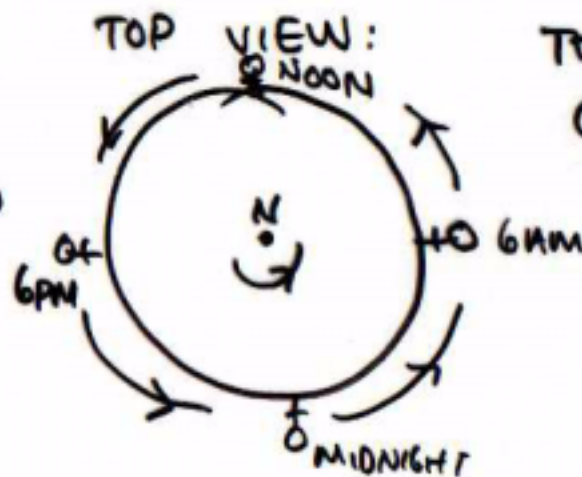
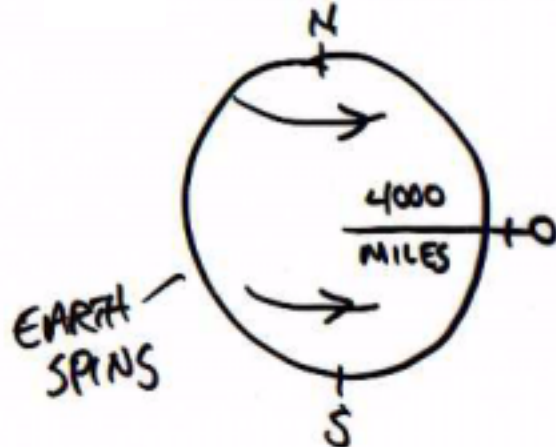
MOON AROUND THE EARTH? 24 Hours

15. How many "WANDERING STARS" ARE THERE? ~~MINUTE~~ SECOND HAND: 1 MIN, 60 SE.

WHAT IS MEANT BY "WANDERING": COMPARE TO MOTION OF THE STARS!

CHAPTER II

5. How FAST DO YOU MOVE IF YOU STAND ON THE EQUATOR?



THIS GUY MOVES IN A CIRCLE.

How FAR:

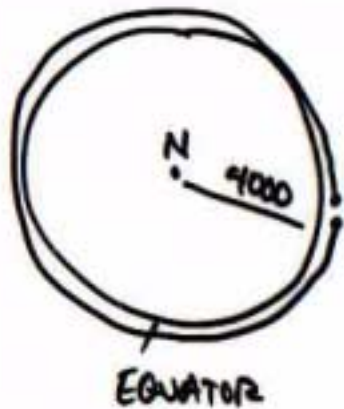
CIRCUMFERENCE

$$= C = 2 \cdot \pi \cdot R$$

$$= 2 \cdot 3.14 \dots \cdot 4,000 \text{ MILES}$$

$$\approx 24,000 \text{ MILES}$$

CHAPTER II
5. CONT.



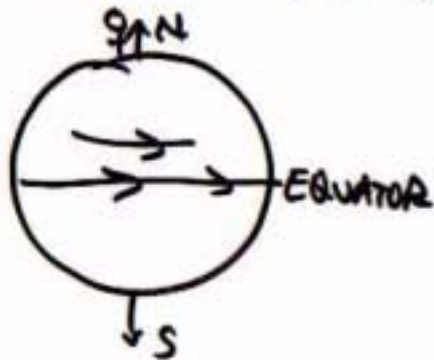
$$\overbrace{\hspace{10em}}^{24,000 \text{ MILES} = 2 \cdot \pi \cdot R}$$

How FAR YOU GO.

How MUCH TIME = 24 HOURS.

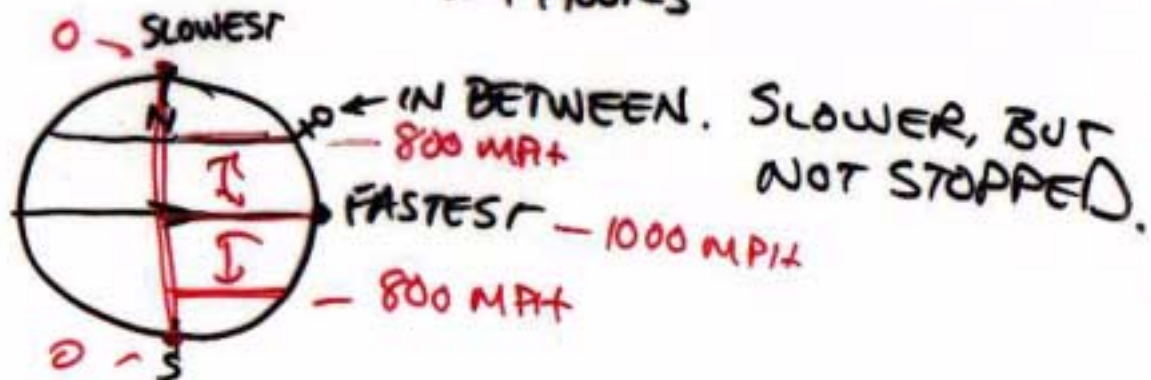
$$\text{SPEED} = \frac{\text{How FAR}}{\text{How MUCH TIME}} = \frac{24,000 \text{ MILES}}{24 \text{ HOURS}} = 1,000 \frac{\text{MILES}}{\text{HOUR}}$$

SUPPOSE YOU STAND ON THE NORTH POLE? THEN HOW FAST?

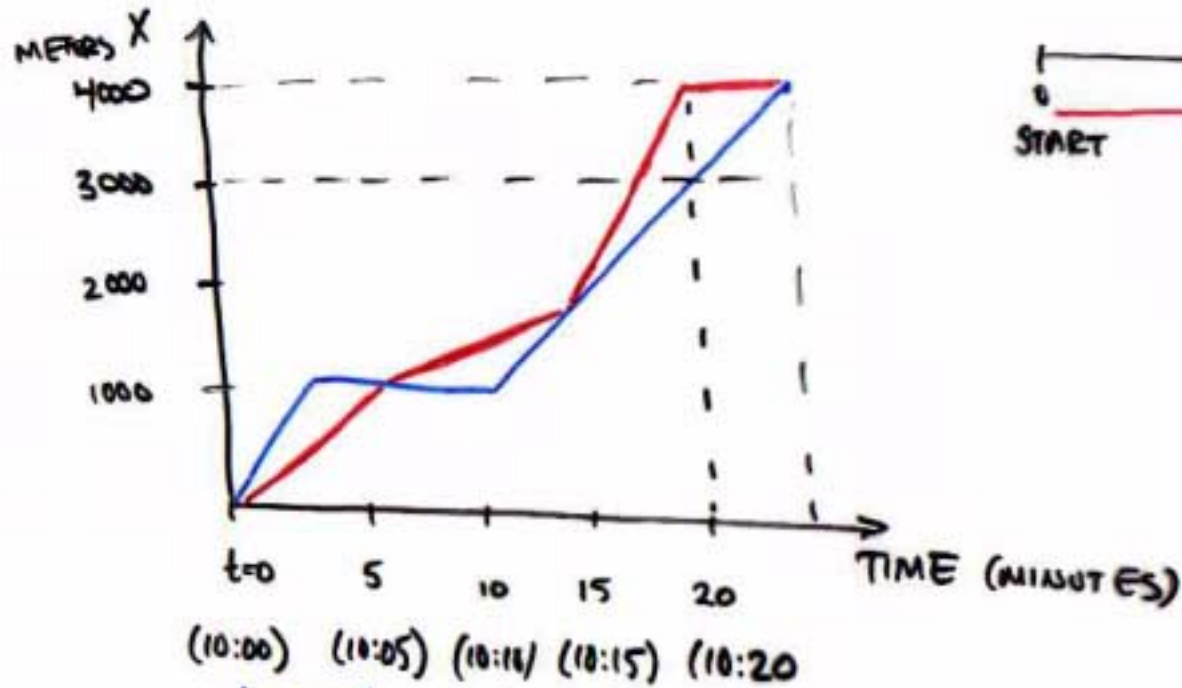


AS EARTH SPINS AROUND ... YOU DON'T MOVE.

$$\text{SPEED} = \frac{0 \text{ MILES}}{24 \text{ HOURS}}$$



CHAPTER II : 8

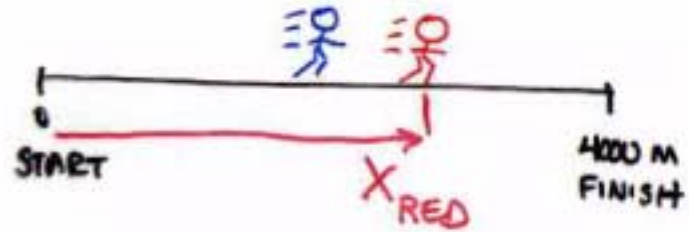


(10:00) (10:05) (10:10) (10:15) (10:20)

WHO'S WINNING?

WHO'S WINNING?

WHO WON?
WINNING TIME?



$$\frac{\text{How FAR}}{\text{How LONG}} = \frac{4000 \text{ M}}{20 \text{ MIN}}$$

$$= \frac{200 \text{ MET}}{\text{MIN}}$$

WHAT WAS THE AVERAGE SPEED OF THE RUNNERS DURING THE FIRST 20 MINUTES OF THE RACE?