FEBRUARY 9, 2015 4TH

STARTER

Distribute and write the answer with the terms in the correct order.

1. $3(4x-6)$

2. $-4(-2n+5)$

3. $5(-3+2a)$

4. $-2(4-5k)$

2/9 Comparing Rates with Different Units

Which do you think is **FASTER**?

an antelope or a cheetah

60 mph

$$\frac{60\ \text{mi}}{1\ \text{hr}} \cdot \frac{1\ \text{hr}}{3600\ \text{sec}} \cdot \frac{5280\ \text{ft}}{1\ \text{mi}}$$

$$= \frac{316800\ \text{ft}}{3600\ \text{sec}}$$

$$\approx 88\ \text{ft/sec}$$

$60 \times 5280 = 316800$

$316800 \div 3600 = 88$

103 ft/sec

$$\frac{103\ \text{ft}}{1\ \text{sec}} \cdot \frac{3600\ \text{sec}}{1\ \text{hr}} \cdot \frac{1\ \text{mi}}{5280\ \text{ft}}$$

$$= \frac{370800\ \text{mi}}{5280\ \text{hr}}$$

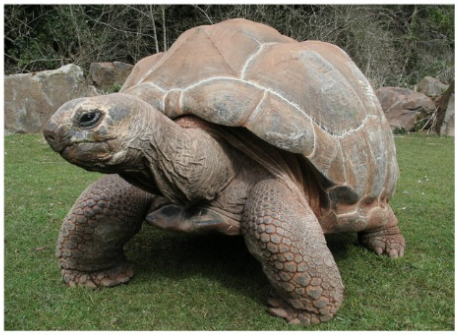
$$= 70.2\ \text{mph}$$

$103 \times 3600 = 370800$

$370800 \div 5280 = 70.227273$

Which do you think is **FASTER** ?

a giant tortoise or a 3-toed sloth



0.2 ft/sec

0.20 mph

$$\frac{0.2\ \text{ft}}{\text{sec}} \cdot \frac{3600\ \text{sec}}{1\ \text{hr}} \cdot \frac{1\ \text{mi}}{5280\ \text{ft}} = \frac{720\ \text{mi}}{5280\ \text{hr}} = 0.13\ \text{mi/hr}$$

$$\frac{0.2\ \text{mi}}{\text{hr}} \cdot \frac{1\ \text{hr}}{3600\ \text{sec}} \cdot \frac{5280\ \text{ft}}{1\ \text{mi}} = \frac{1056\ \text{ft}}{3600\ \text{sec}} = 0.29\ \text{ft/sec}$$

$0.2 \times 3600 = 720$

$720 \div 5280 = 0.136364$

$1056 \div 3600 = 0.293333$

Which do you think is **FASTER** ?

an elephant or a giraffe

31.1 *mph*

36.6 ft/sec = ? mi/h

$$\frac{36.6\ \text{ft}}{1\ \text{sec}} \cdot \frac{3600\ \text{sec}}{1\ \text{hr}} \cdot \frac{1\ \text{mi}}{5280\ \text{ft}}$$

time (3600 sec / 1 hr) distance (1 mi / 5280 ft)

$$= \frac{131760\ \text{mi}}{5280\ \text{hr}}$$

$$= 24.95\ \text{mi/hr}$$

$$\frac{31.1\ \text{mi}}{1\ \text{hr}} \cdot \frac{1\ \text{hr}}{3600\ \text{sec}} \cdot \frac{5280\ \text{ft}}{1\ \text{mi}}$$

$$= \frac{164208\ \text{ft}}{3600\ \text{sec}}$$

$$= 45.61\ \text{ft/sec}$$

Which do you think is FASTER ?

a chicken or a squirrel

13.2 ft/sec

12 mph

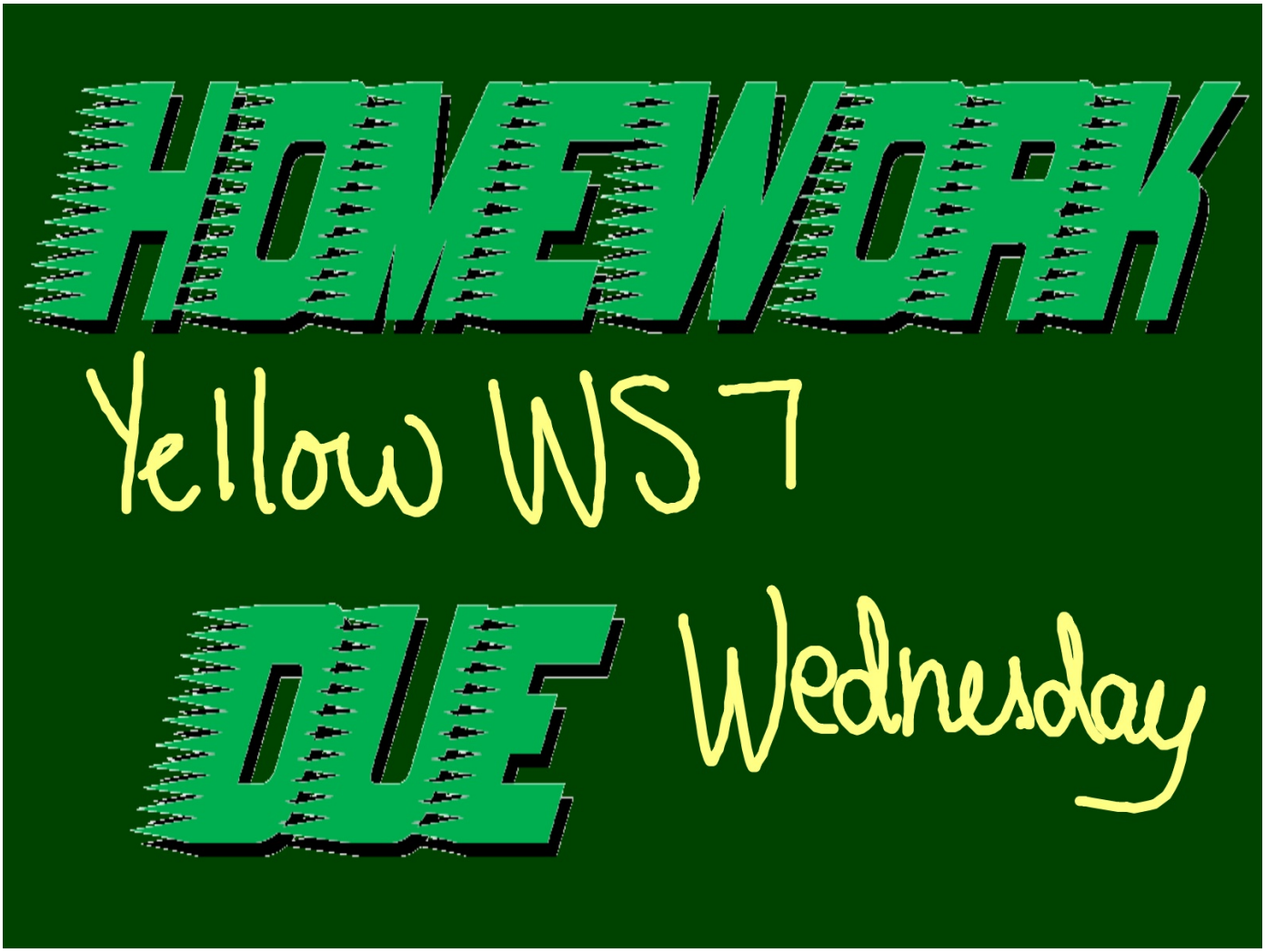
$$\frac{13.2\ \text{ft}}{\text{sec}} \cdot \frac{3600\ \text{sec}}{1\ \text{hr}} \cdot \frac{1\ \text{mi}}{5280\ \text{ft}}$$

$$= \frac{47520\ \text{mi}}{5280\ \text{hr}} = 9\ \text{mi/hr}$$

$$\frac{12\ \text{mi}}{\text{hr}} \cdot \frac{1\ \text{hr}}{3600\ \text{sec}} \cdot \frac{5280\ \text{ft}}{1\ \text{mi}}$$

$$= \frac{63360\ \text{ft}}{3600\ \text{sec}}$$

$$= 17.6\ \text{ft/sec}$$


HOMEWORK
Yellow WS 7
DUE
Wednesday