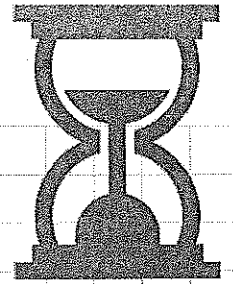


## SOLUTIONS

## TIME



Perform the following conversions. Show the work as demonstrated in class.

Use the following conversion factors:

1 min = 60 s; 1 hr = 60 min; 1 day = 24 hr; 1 week = 7 day; 1 yr = 52 week; 1 yr = 12 mo;  
1 decade = 10 yr; 1 century = 100 yr; 7 ducks = 13 min; 19 cows = 29 hr; 3 pigs = 7 cows

1. Convert 30 minutes to hours

$$30 \text{ MIN} \left( \frac{1 \text{ HR}}{60 \text{ MIN}} \right) = 0.5 \text{ HR}$$

2. Convert 4001 seconds to hours

$$4001 \text{ S} \left( \frac{1 \text{ MIN}}{60 \text{ S}} \right) \left( \frac{1 \text{ HR}}{60 \text{ MIN}} \right) = 1.111 \text{ HR}$$

3. Convert 234 hours to days

$$234 \text{ HR} \left( \frac{1 \text{ DAY}}{24 \text{ HR}} \right) = 9.75 \text{ DAY}$$

4. Convert 345 hours to seconds

$$345 \text{ HR} \left( \frac{3600 \text{ S}}{1 \text{ HR}} \right) = 1.24 \text{ E}6 \text{ S}$$

5. Convert 0.00876 months to seconds

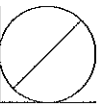
$$0.00876 \text{ MO} \left( \frac{1 \text{ YR}}{12 \text{ MO}} \right) \left( \frac{52 \text{ WK}}{1 \text{ YR}} \right) \left( \frac{7 \text{ DAY}}{1 \text{ WK}} \right) \left( \frac{24 \text{ HR}}{1 \text{ DAY}} \right) \left( \frac{3600 \text{ S}}{1 \text{ HR}} \right) = 2.30 \text{ E}4 \text{ S}$$

6. Convert 0.0468 weeks to minutes

$$0.0468 \text{ WK} \left( \frac{7 \text{ DAY}}{1 \text{ WK}} \right) \left( \frac{24 \text{ HR}}{1 \text{ DAY}} \right) \left( \frac{60 \text{ MIN}}{1 \text{ HR}} \right) = 472 \text{ MIN}$$

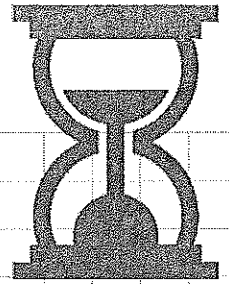
7. Convert 23.89 E4 seconds to years

$$23.89 \text{ E}4 \text{ S} \left( \frac{1 \text{ HR}}{3600 \text{ S}} \right) \left( \frac{1 \text{ DAY}}{24 \text{ HR}} \right) \left( \frac{1 \text{ WK}}{7 \text{ DAY}} \right) \left( \frac{1 \text{ YR}}{52 \text{ WK}} \right) = 7.596 \text{ E}-3 \text{ YR}$$



## SOLUTIONS

## TIME



8. Convert 47.2 cows to days

$$47.2 \text{ COWS} \left( \frac{29 \text{ HR}}{19 \text{ COWS}} \right) \left( \frac{1 \text{ DAY}}{24 \text{ HR}} \right) = 3.00 \text{ DAYS}$$

9. Convert 0.00471 minutes to ducks

$$0.00471 \text{ MIN} \left( \frac{7 \text{ DUCKS}}{13 \text{ MIN}} \right) = 2.54 \text{E-3 DUCKS}$$

10. Convert 50621 pigs to centuries

$$50621 \text{ PIG} \left( \frac{7 \text{ COW}}{3 \text{ PIG}} \right) \left( \frac{29 \text{ HR}}{19 \text{ COW}} \right) \left( \frac{1 \text{ D}}{24 \text{ HR}} \right) \left( \frac{1 \text{ WK}}{7 \text{ D}} \right) \left( \frac{1 \text{ YR}}{52 \text{ WK}} \right) \left( \frac{1 \text{ CENT}}{100 \text{ YR}} \right) = 0.20637 \text{ CENT}$$

11. Convert 1.80 minutes per part to parts per hour

$$1.8 \frac{\text{MIN}}{\text{PART}} = \frac{1 \text{ PART}}{1.8 \text{ MIN}} \left( \frac{60 \text{ MIN}}{1 \text{ HR}} \right) = 33.3 \text{ PART/HR}$$

12. Convert 6.253 hours per rotation to rotations per month

$$6.253 \frac{\text{HR}}{\text{ROT}} = \frac{1 \text{ ROT}}{6.253 \text{ HR}} \left( \frac{24 \text{ HR}}{1 \text{ DAY}} \right) \left( \frac{7 \text{ D}}{1 \text{ WK}} \right) \left( \frac{52 \text{ WK}}{1 \text{ YR}} \right) \left( \frac{1 \text{ YR}}{12 \text{ MO}} \right) = 116.4 \frac{\text{ROT}}{\text{MO}}$$

13. Convert 35 revolutions per minute to seconds per revolution

$$35 \frac{\text{REV}}{\text{MIN}} = \frac{1 \text{ MIN}}{35 \text{ REV}} \left( \frac{60 \text{ S}}{1 \text{ MIN}} \right) = 1.7 \text{ S/REV}$$

14. If it takes 1.73 hours to make a widget, how many hours would you have to work per week if you wanted to make 32 widgets every week?

$$1.73 \frac{\text{HR}}{\text{WIDGET}} (32 \text{ WIDGET}) = 55.4 \text{ HR}$$