Period & Frequency

Two seemingly simple terms often cause confusion for students because they are very similar. These are *Period* and *Frequency*. The purpose of this sheet is to give you the definitions of these terms and get you comfortable recognizing and converting between them.

	Symbol	*Defintion*	*Units*
Period			
Frequency			

Period: 1 min = _____ seconds & 1 second = _____ minutes

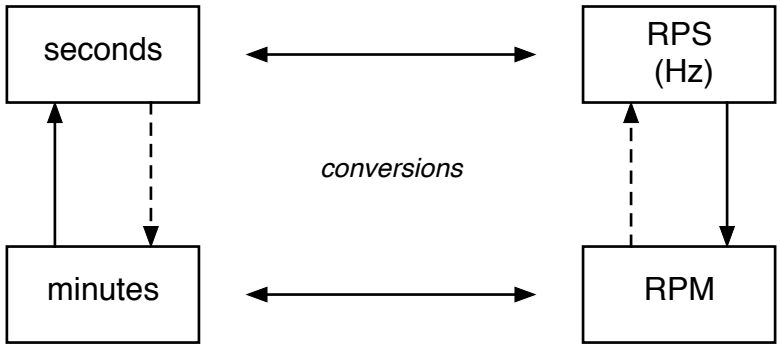
Frequency: 1 rps (Hz) = _____ rpm & 1 rpm = _____ rps (Hz)

Period (T)

$$\frac{\text{time}}{\text{revolution}}$$

Frequency (f)

$$\frac{\text{revolutions}}{\text{time}}$$



Period & Frequency

Questions

1. For each of the following, tell whether I am giving you a *period (T)* or a *frequency (f)*:
   a. A car takes 24 seconds to go around a circle once.
   b. A kid is spun around at 3 revolutions per minute.
   c. A washing machine is spinning at 45 rpm.
   d. A cd rotates once every 0.025 seconds.
   e. A wheel goes around at a rate of 3.5 Hz.

2. A runner does 4 laps around a track in 120 seconds.
   a. What is the period of the runner in seconds?
   b. What is the period of the runner in minutes?
   c. What is the frequency of the runner in Hz?
   d. What is the frequency of the runner in rpm?

3. What is the frequency of a tire that takes 0.025 seconds to rotate once?

4. What is the period of a record that spins at 33.3 rpm?

5. What is the period of something that rotates at 20 Hz?

6. What is the frequency of a kid walking around in a circle once every 5 minutes?

7. A car takes 330 seconds to make one lap around a track. What is its rpm?

8. A Merry-go-Round rotates 3.5 times every minute. How many seconds does it take to go around once?

Answers: 1. a) T b) f c) f d) T e) f 2. a) 30 s b) 1/2 min c) 0.033 Hz d) 2 rpm 3) 40 Hz 4) 0.03 min 5) 0.05 s 6) 0.2 rpm 7) 0.18 rpm 8) 17.1 s