

# Questions?

7										
8	t	0	1.5	3	4.5	6		9	12	15
11	f	1000	500	1000	500	1000	>	1000	1000	1000
13										

5 periods  $a = \frac{1000-500}{2}$

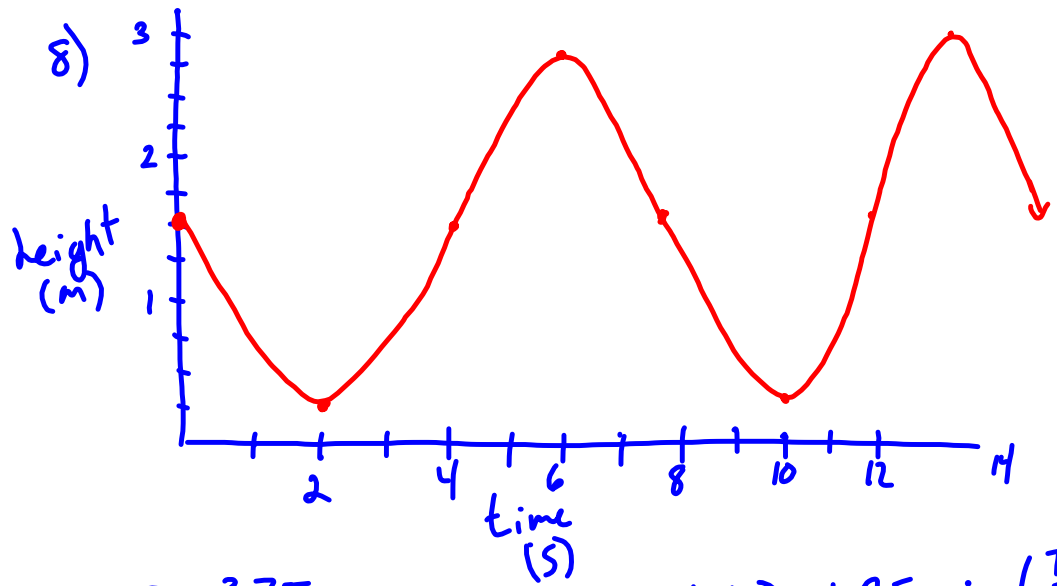
period =  $\frac{15}{5} = 3$  s

= 250 Hz

$k = \frac{2\pi}{3}$

$f(t) = 250 \cos(\frac{2\pi}{3}t) + 750$

axis =  $\frac{1000+500}{2} = 750$



$a = \frac{2.75 - 0.25}{2} = 1.25$

$h(t) = 1.25 \sin(\frac{\pi}{4}t) + 1.5$

$d = 1.5$   
 $k = \frac{2\pi}{8} = \frac{1}{4}\pi$

$$11) \quad a = \frac{17.6 - (-14.8)}{2}$$

$$= 16.2$$

$$d = \frac{17.6 + (-14.8)}{2}$$

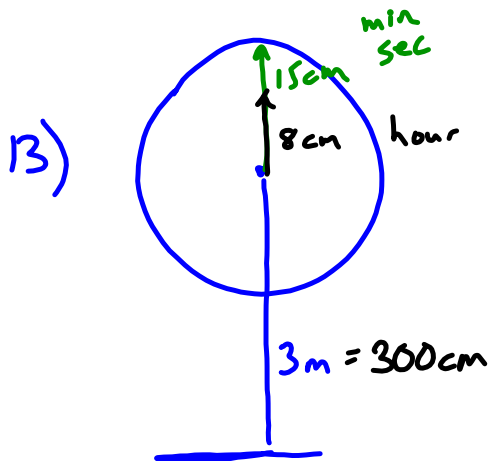
$$= 1.4$$

$$k = \frac{2\pi}{365}$$

need to shift sine  
by  $\frac{1}{4}$  of a period  
to the right

$\therefore$  shift  $\frac{365}{4} = 91.25$  to  
the right

$$d(t) = 16.2 \sin\left(\frac{2\pi}{365}(t - 91.25)\right) + 1.4$$



second hand

$$\text{period} = 1 \text{ min} \quad k = \frac{2\pi}{1}$$

$$a = 15$$

$$s(t) = 15 \cos(2\pi t) + 300$$

minute hand

$$\text{period} = 60 \text{ mins}$$

$$k = \frac{2\pi}{60} = \frac{\pi}{30}$$

$$a = 15$$

$$d = 300$$

$$m(t) = 15 \cos\left(\frac{\pi}{30}t\right) + 300$$

hour hand

$$\text{period} = 12\text{h} \times 60 \text{ min/h}$$

$$= 720 \text{ mins}$$

$$k = \frac{2\pi}{720} = \frac{\pi}{360}$$

$$a = 8$$

$$d = 300$$

$$h(t) = 8 \cos\left(\frac{\pi}{360}t\right) + 300$$

**IS YOUR CALCULATOR IN RADIAN MODE?***No meme....***Enrichment Day****pg 376**

1 - 4, 5b, 6, 8, 11d, 12, 13, 14, 16, 19\*\*

a d-value of about 0.3 is acceptable

\*\* sub in  $h = \pm 0.01$  immediately

Note final answer corrections:

#6 a)  $\tan\theta = \pm 12/5$ #6 c)  $\theta = 2.0$  or  $4.3$ 

#19d) approx. -144

**pg 378****Self-Test**

Note: do not use a calculator for #2.

In #6 answers may vary.

For #8a, use only a cosine function.

Note final answer corrections:

#1:  $y = \tan x$  is also a function that is possible!#3:  $y = 94.9$