



## Pre Course Math Revision Worksheet 1

### PART A

Calculate the following:

**Q1** If  $C = f \lambda$

And  $f = 10$ ,  $\lambda = 1$ , Calculate  $C$

**Q2** If  $C = f \lambda$

And  $f = 10$ ,  $\lambda = 10$ , Calculate  $C$

**Q3** If  $C = f \lambda$

And  $f = 5$ ,  $C = 5.8$ , Calculate  $\lambda$

**Q4** If  $C = f \lambda$

And  $f = 5$ ,  $C = 3.2$ , Calculate  $\lambda$

**Q5** If  $C = f \lambda$

And  $\lambda = 1.18$ ,  $C = 5.9$ , Calculate  $f$

**Q6** If  $C = f \lambda$

And  $\lambda = 5.9$ ,  $C = 5.9$ , Calculate  $f$

**Q7** If  $N = \frac{D^2}{4\lambda}$

And  $\lambda = 1.18$ ,  $D = 10$ , Calculate  $N$

**Q8** If  $N = \frac{D^2}{4\lambda}$

And  $\lambda = 3$ ,  $D = 14$ , Calculate N

**Q9** If  $N = \frac{D^2}{4\lambda}$  and  $C = f \lambda$

And  $C = 5.9$ ,  $D = 14$ ,  $f = 5$ , Calculate N

**Q10** If  $N = \frac{D^2}{4\lambda}$  and  $C = f \lambda$

And  $C = 3.2$ ,  $D = 10$ ,  $f = 5$ , Calculate N

**Q11** If  $AB = CD$

And  $B=5$ ,  $C=10$ ,  $D=20$ , Calculate A

**Q12** If  $AB = CD$

And  $A=4$ ,  $C=16$ ,  $D=10$ , Calculate B

**Q13** If  $AB = CD$

And  $A=5$ ,  $B=6$ ,  $D=12$ , Calculate C

**Q14** If  $AB = CD$

And  $A=1$ ,  $B=2$ ,  $C=100$ , Calculate D

**Q15** If  $A = B^2$

And  $B = 10$ , Calculate A

**Q16** If  $A = \sqrt{B}$

And  $B = 9$ , Calculate A

**Q17** If  $A = \sqrt{B}$

And  $B = 64$ , Calculate A

**Q18** If  $A = B^2$

And  $A = 25$ , Calculate B

**Q19** If  $A = B^2$

And  $A = 90$ , Calculate B

**Q20** If  $A = \sqrt{B}$

And  $A = 9$ , Calculate B

**Q21** If  $I_1 D_1^2 = I_2 D_2^2$

And  $I_1 = 100$ ,  $D_1 = 1$ ,  $D_2 = 2$ , Calculate  $I_2$

**Q22** If  $I_1 D_1^2 = I_2 D_2^2$

And  $I_1 = 60$ ,  $D_1 = 10$ ,  $D_2 = 3$ , Calculate  $I_2$

**Q23** If  $I_1 D_1^2 = I_2 D_2^2$

And  $I_1 = 100$ ,  $D_1 = 1$ ,  $I_2 = 10$ , Calculate  $D_2$

**Q24** If  $I_1 D_1^2 = I_2 D_2^2$

And  $I_1 = 1050$ ,  $D_1 = 0.5$ ,  $I_2 = 50000$ , Calculate  $D_2$

**Q25** If  $\sin \theta = X$   
And  $\theta = 45^\circ$ , Calculate X

**Q26** If  $\sin \theta = X$   
And  $\theta = 0^\circ$ , Calculate X

**Q27** If  $\sin \theta = X$   
And  $\theta = 90^\circ$ , Calculate X

**Q28** If  $\sin \theta = X$   
And  $X = 0.5$  Calculate  $\theta$

**Q29** If  $\sin \theta = X$   
And  $X = 0.707$  Calculate  $\theta$

**Q30** If  $\sin \theta = X$   
And  $X = 1$  Calculate  $\theta$

## PART B

Convert the following:

Q1    1520 m        =            km

Q2    5278 mm        =            m

Q3    427 mm         =            m

Q4    18 cm            =            mm

Q5    42 mm            =            km

Q6    400 Hz           =            kHz

Q7    4.2 MHz         =            Hz

Q8    51 kHz           =            mHz

Q9    570 GBq         =            TBq

Q10   0.332 TBq       =            GBq

Q11   1 Sv              =            mSv

Q12   1Sv               =             $\mu$ Sv

Q13   57mSv           =             $\mu$ Sv

Q14   93  $\mu$ Sv           =            mSv

Q15   0.33  $\mu$ Sv        =            Sv

Q16 45 km/hr = km/second

Q17 61 m/second = cm/hour

Q18 125 km/hour = m/second

Q19 52  $\mu$ Sv/day = Sv/second

Q20 0.0031mSv/hr =  $\mu$ Sv/second

Notes:

m = Meters , measure of distance

Hz = Hertz , measure of frequency

Bq = Becquerel , measure of activity.

Sv = Sievert , measure of radiation

Prefix	Symbol	Value
yotta	(Y)	$10^{24}$
zetta	(Z)	$10^{21}$
exa	(E)	$10^{18}$
peta	(P)	$10^{15}$
tera	(T)	$10^{12}$
giga	(G)	$10^9$
mega	(M)	$10^6$
kilo	(k)	$10^3$
hecto	(h)	$10^2$
deka	(da)	$10^1$

Prefix	Symbol	Value
deci	(d)	$10^{-1}$
centi	(c)	$10^{-2}$
milli	(m)	$10^{-3}$
micro	(u)	$10^{-6}$
nano	(n)	$10^{-9}$
pico	(p)	$10^{-12}$
femto	(f)	$10^{-15}$
atto	(a)	$10^{-18}$
zepto	(z)	$10^{-21}$
yocto	(y)	$10^{-24}$