

1. Circle either I for Type I error or II for Type II error, in the following situations.

- A radiologist mistakenly concludes that fluoroscopes are harmless I II
 H_0 accepted, but H_0 not true
 A 1970 visitor to Voisey's Bay concluded there were no mineral deposits I II
 A major deposit of nickel was later discovered

 An pharmacologist concludes that a new drug is effective. I II
 Subsequent trials fail to confirm the initial results.

2. Calculate the two corresponding frequency distributions $F(Q=k)$, $RF(Q=k)$, and the corresponding relative frequency distribution $RF(Q \leq k)$ from the following cumulative frequency distribution $F(Q \leq k)$.

$F(Q=k)$	$RF(Q=k)$	$F(Q \leq k)$	$RF(Q \leq k)$
<u>5</u>	<u>5/20</u>	<u>5</u>	<u>5/20</u>
<u>5</u>	<u>5/20</u>	<u>10</u>	<u>10/20</u>
<u>5</u>	<u>5/20</u>	<u>15</u>	<u>15/20</u>
<u>5</u>	<u>5/20</u>	<u>20</u>	<u>20/20</u>

2. Write in exponents to show dimensions for the following quantities. The first example has been completed for you. The flux of the quantity Q has dimensions of $Q L^{-2} T^{-1}$

	<u>M</u>	<u>L</u>	<u>T</u>
Velocity	M^0	L^1	T^{-1}
Kinetic energy ($kg\ m^2\ s^{-2}$)	M^1	L^2	T^{-2}
Downward flux of leaves (leaf biomass in kg)	M^1	L^{-2}	T^{-1}
Kinetic energy flux	M^1	L^0	T^{-3}
$(M^1 L^2 T^{-2}) (L^{-2} T^{-1}) = M^1 L^0 T^{-3}$			