



ICAO

# INTERNATIONAL CIVIL AVIATION ORGANIZATION

A UN SPECIALIZED AGENCY

RECONNECTING **THE** WORLD

# Aviation Statistics Workshop

## ICAO Statistics Programme Session 8

---

What to do when there is missing data in Form A?

# What to do when there is missing data in Form A?

Estimation of missing items



Aircraft kilometres (AKm)

$$Akm = DEP * \text{Average distance performed}$$

Aircraft hours(AHrs)

$$AHrs = Akm / \text{speed}$$

Passenger-kilometres performed(RPK)

$$RPK = \text{Passagers} * (Akm / DEP)$$

Seat-kilometres available (ASK)

$$ASK = RPK / (PLF/100)$$

Passagers Load Factor (PLF)

$$PLF = (RPK / ASK) * 100$$

# Example of estimation of missing items



Passengers Tonne-kilometres performed (PTK)

$$PTK = RPK * (\text{average passenger weight kg} / 1000)$$

Freight Tonne-kilometres performed (FTK)

$$FTK = Frt * (Akm / DEP)$$

Revenue Tonne-kilometres performed (RTK)

$$RTK = PTK + FTK + MTK$$

Available Tonne-kilometres performed (ATK)

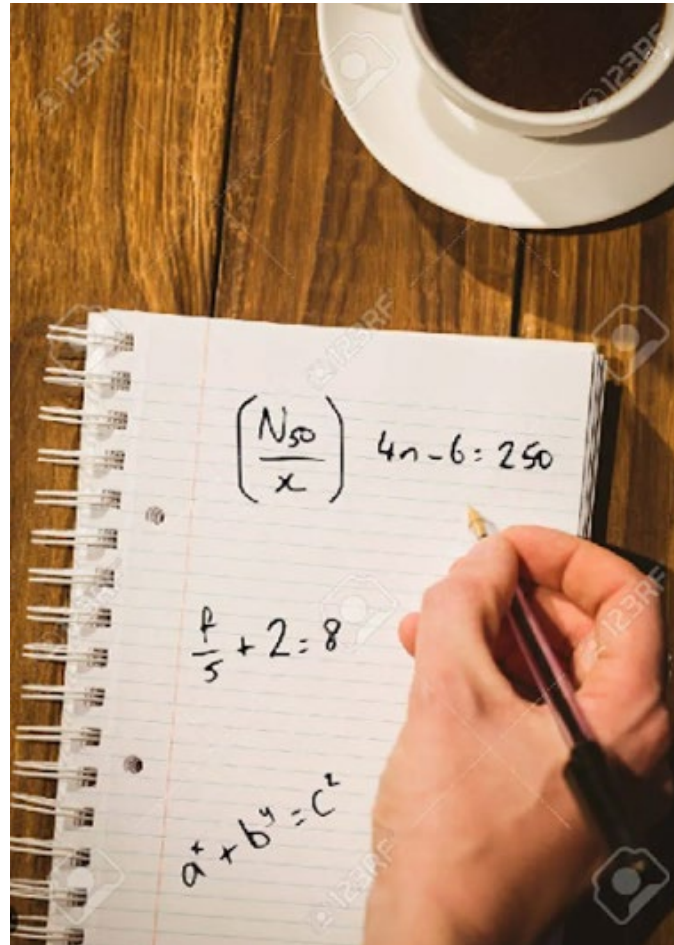
$$ATK = RTK / (WLF/100)$$

Weight load factor(WLF)

$$WLF = (RTK / ATK) * 100$$

# Exercise of missing items

## Manual exercise



# Exercise of missing items

Description	Unit	International scheduled service
1. Aircraft kilometres	000	29,583
2. Aircraft departures	number	15,368
3. Aircraft hours	number	44,220
4. Passengers carried	number	1,947,185
5. Freight tonnes carried	number	32,639
6. Passenger-kilometres performed	000	3,748,331.12
7. Seat-kilometres available	000	4,414,995.43
8. Passenger load factor	%	84.9%
9. Tonne-kilometres performed		
a) passenger (incl. baggage)	000	374,833.112
b) freight (incl. express)	000	62,830.1
c) mail	000	1,161
d) total (9a to 9c)	000	438,824.19
10. Tonne-kilometres available	000	598,668.74
11. Weight load factor	%	73.3%



- Assumptions:**
- **average distance performed: 1,925 km**
  - **Speed: 669km/hr**



# Exercise of missing items

1. Use Form A
2. Use ICAO Statistics Form A\_Validation assistance tool
3. Validate Form A with estimates items

## **Assumptions:**

**Avg distance: 1,648 km**

**Avg speed: 640 km/hr**

**PLF: 68.31%**

**WF:61.07%**





---

Thank You