

## Takeoff Calculations Worksheet

Date \_\_\_\_\_ Airport \_\_\_\_\_

### Field Data and Conditions

Altimeter Setting \_\_\_\_\_

Wind, Magnetic \_\_\_\_\_

Temperature \_\_\_\_\_

Field Elevation \_\_\_\_\_

Runway In Use \_\_\_\_\_

**Note:** If From TAF / METAR ect. Convert to Magnetic

Head wind
Cross Wind

**Calculate**
\_\_\_\_\_ Kts
\_\_\_\_\_ Kts

### Calculate Wind Factor

Head Wind \_\_\_\_\_ Kts Divided by 9 = \_\_\_\_\_ X 10 = \_\_\_\_\_ % Headwind Factor

Tail Wind \_\_\_\_\_ Kts Divided by 2 = \_\_\_\_\_ X 10 = \_\_\_\_\_ % Tail Wind Factor

**Caution:** Max 10 kts - No more than 5 kts recommended - ADD Tail Wind Factor

### Calculate Pressure Altitude

**Note:** If result is below sea level use sea level pressure altitude.

Altimeter Setting
Note: May be Negative or Positive.
Field Elevation
Pressure Altitude

29.92 - \_\_\_\_\_ = \_\_\_\_\_ X 1000 = \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

### Cessna Charts

From the Cessna Takeoff Charts (5.12 –5.13) find the sets of distances that bracket the actual temperature and the actual pressure altitude. Temper 1 will be the low temperature and Temp 2 will be the high temperature. Pressure Altitude 1 will be the low pressure and Pressure Altitude 2 will be the high pressure. **Note:** if the temperature or pressure matches one in the charts you do not need to do an adjustment for that chart.

#### Temperature Factor Calculation

\_\_\_\_\_ c Actual Temp  
 - \_\_\_\_\_ c Temp 1  
 = \_\_\_\_\_ c X 10 = \_\_\_\_\_ %  
 Temperature Factor

#### Pressure Altitude Factor Calculation

\_\_\_\_\_ Actual Pressure Altitude  
 - \_\_\_\_\_ Pressure Altitude 1  
 = \_\_\_\_\_ X 0.1 = \_\_\_\_\_ %  
 Pressure Alt Factor

### Temperature Adjustment

Cessna	Chart Pressure Altitude 1 = _____ ft	
	Ground Roll	Total To Clear 50 ft Obstacle
Temp 2 _____ Distances	_____	_____
Temp 1 _____ Distances	- _____	- _____
Difference	= _____	= _____
Temperature Factor	+ _____ %	+ _____ %
	= _____	= _____
Temp 1 Distances	+ _____	+ _____
<b>Adjusted Distances</b>	<b>A1 = _____</b>	<b>A2 = _____</b>

Chart Pressure Altitude 2 = _____ ft	
Ground Roll	Total To Clear 50 ft Obstacle
_____	_____
- _____	- _____
= _____	= _____
+ _____ %	+ _____ %
= _____	= _____
+ _____	+ _____
<b>B1 = _____</b>	<b>B2 = _____</b>

### Pressure Altitude and Wind Adjustment

Temp Adjusted Distances	B1 _____	B2 _____
Temp Adjusted Distances	A1 - _____	A2 - _____
Difference	= _____	= _____
Pressure Alt. Factor	+ _____ %	+ _____ %
	= _____	= _____
Temp Adjusted Distances	+ A1 _____	+ A2 _____
<b>Adjusted Distances</b>	= _____	= _____
Subtract Headwind Factor	- _____ %	- _____ %
	= _____	= _____

**Caution:**  
Add Tailwind Factor - Max 50%

### Grass Runway Adjustment

Ground Roll Distance	_____
	X 15 %
Grass Adjustment	= _____
Ground Roll Distance	_____
Grass Adjustment	+ _____
<b>Final Ground Roll Distance</b>	= _____
Total To Clear 50 Feet	_____
Grass Adjustment	+ _____
<b>Final Total to Clear 50 ft</b>	= _____