

## *Notice of OPTN Policy Changes*

# Standardize Six-Minute Walk for Lung Allocation

**Sponsoring Committee:**

**Policies Affected:**

**Lung Transplantation Committee**

***10.1.A.1 Waitlist Survival Points for Candidates at least 12 Years Old***

***10.1.B.1 Post-Transplant Outcomes Points for Candidates at least 12 Years Old***

***10.3 Clinical Values and Update Schedule***

***10.3.B Lung Clinical Values That Must Be Updated Every Six Months***

***21.2.A Values Used in the Calculation of Lung Waiting List Survival***

***21.2.B.1 Coefficients Used in Calculating Lung Post-Transplant Outcomes***

**New Guidance:**

**Guidance for Conducting the Six-Minute Walk For Lung Allocation**

**Public Comment:**

**January 23, 2024 – March 19, 2024**

**Board Approved:**

**June 17-18, 2024**

**Effective Date:**

**September 3, 2024**

### **Purpose of Policy Changes and New Guidance**

The purpose of these changes is to standardize how transplant programs perform the six-minute walk test when reporting the walk distance for use in the lung composite allocation score (CAS). Provision of supplemental oxygen during the test is one of the main sources of variability in performing the six-minute walk test. These changes will standardize how transplant programs determine oxygen needs ahead of the six-minute walk test and provide guidance specifically for lung transplant candidates to supplement current clinical standards. Standardizing the six-minute walk test for lung allocation will improve equity in lung allocation priority.

### **Proposal History**

Six-minute walk distance is a variable in the lung composite allocation score (CAS). The distance (measured in feet) that a lung candidate can walk in six minutes factors into both the medical urgency and post-transplant outcome portions of the lung CAS for candidates aged 12 years and older. Six-minute walk distance has been incorporated into lung allocation since the implementation of the lung allocation score (LAS) in 2005.<sup>1</sup> In 2015, the LAS was updated to incorporate six-minute walk distance as

<sup>1</sup> T.M. Egan, S. Murray, R.T. Bustami, et al., "Development of the New Lung Allocation System in the United States," *American Journal of Transplantation* 6 no. 5 (May 2006): 1212 – 1227, <https://doi.org/10.1111/j.1600-6143.2006.01276.x>.

a continuous variable in the waiting list survival model, as recommended concurrently in clinical literature,<sup>2</sup> and to add six-minute walk distance to the post-transplant survival model.<sup>3</sup> In 2021, the LAS was updated based on analysis of a more current cohort of lung candidates.<sup>4</sup> Finally, with the implementation of continuous distribution of lungs on March 9, 2023, the lung CAS replaced the LAS.<sup>5</sup> There were no changes to the coefficients for the variables in the waiting list survival model, however, the post-transplant outcomes component of the lung CAS is based on a model of five-year post-transplant survival rather than the one-year post-transplant survival model used for LAS. This altered how the six-minute walk distance factors into the post-transplant outcomes component of the allocation score<sup>6</sup>.

To address gaps in current clinical standards and OPTN policy<sup>7</sup>, the proposal introduced a new policy requirement for determining candidate oxygen needs ahead of the six-minute walk test and supplemental guidance on completing the six-minute walk test, including special considerations for lung candidates. Additionally, language for six-minute walk distance was updated and moved from policy to help documentation. The proposal was available for public comment during the Winter 2024 cycle. Overall, there was support for the proposal.

Based on community feedback received during public comment, the following updates were made:

- Specify in guidance that the oxygen titration test should be done as close in time as possible, but no more than 12 weeks ahead of the six-minute walk test
- Remove examples from policy describing when it may be unfeasible/unsafe for a candidate to complete the six-minute walk test
- Add guidance for altitude considerations including a recommendation to perform both the oxygen titration test and six-minute walk test at the transplant hospital to ensure consistency
  - Adjust the implementation date to September 3, 2024 and moved related transition plan dates from policy to resolution language

## Summary of Changes

There is a new policy requirement for an oxygen titration test to be completed ahead of the initial six-minute walk test conducted for lung candidates at least 12 years old, and for the six-minute walk test conducted just before lung candidates turn 12 years old. Additionally, some of the existing policy

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<sup>2</sup> A.W. Castleberry, B.R. Englum, L.D. Snyder, et al., "Utility of Six-Minute Walk Distance in Predicting Outcomes After Lung Transplant: A Nationwide Survival Analysis," *The Journal of Heart and Lung Transplantation* 32 no. 4 (April 2013): S147, <https://doi.org/10.1016/j.healun.2013.01.332>.

<sup>3</sup> "Proposal to Revise the Lung Allocation Score (LAS) System," OPTN, Briefing Paper, 2012. This proposal was approved by the OPTN Board of Directors in 2012 and implemented in 2015. See "Changes to the lung allocation system," OPTN, February 17, 2015, accessed October 9, 2023, available <https://optn.transplant.hrsa.gov/news/changes-to-the-lung-allocation-system/>.

<sup>4</sup> "Updated Cohort for Calculation of the Lung Allocation Score (LAS)," OPTN, Policy Notice, accessed October 9, 2023, available <https://optn.transplant.hrsa.gov/media/4244/updated-cohort-for-calculation-of-the-las.pdf>.

<sup>5</sup> "Establish Continuous Distribution of Lungs," OPTN, Policy Notice, accessed November 13, 2023, [https://optn.transplant.hrsa.gov/media/b13dlep2/policy-notice\\_lung\\_continuous-distribution.pdf](https://optn.transplant.hrsa.gov/media/b13dlep2/policy-notice_lung_continuous-distribution.pdf).

<sup>6</sup> "Standardize Six-Minute Walk for Lung Allocation", OPTN, Briefing Paper, June 2024, page 5, Table 1, [https://optn.transplant.hrsa.gov/media/5inj2xic/lung\\_six\\_minute\\_walk\\_board-briefing-paper\\_draft.pdf](https://optn.transplant.hrsa.gov/media/5inj2xic/lung_six_minute_walk_board-briefing-paper_draft.pdf), accessed June 10, 2024.

<sup>7</sup> "Standardize Six-Minute Walk for Lung Allocation", OPTN, Briefing Paper, June 2024, page 5, Table 1, [https://optn.transplant.hrsa.gov/media/5inj2xic/lung\\_six\\_minute\\_walk\\_board-briefing-paper\\_draft.pdf](https://optn.transplant.hrsa.gov/media/5inj2xic/lung_six_minute_walk_board-briefing-paper_draft.pdf), accessed June 10, 2024.

language regarding the six-minute walk distance is removed, as it described how the six-minute walk test should be performed.

Guidance expands on current clinical standards for the six-minute walk test, providing recommendations specific to lung transplant candidates and a protocol for the oxygen titration test. Recommendations for the provision of supplemental oxygen during the six-minute walk test, safety and altitude considerations are included.

## Implementation

Transplant hospitals with lung transplant programs must ensure that oxygen titration tests are completed ahead of the initial six-minute walk test conducted for lung candidates at least 12 years old, and for the six-minute walk test conducted just before candidates turn 12 years old. For lung candidates registered prior to September 3, 2024, who are at least 11 years 6 months old on September 3, 2024, transplant programs must perform an oxygen titration test prior to conducting the six-minute walk test for reporting a six-minute walk distance by March 3, 2025. Transplant hospitals must document in the candidate's medical record final amount of supplemental oxygen from the oxygen titration test and provide that amount at the start of the six-minute walk test.

Lung transplant programs may also need to update their internal policies regarding oxygen titration and six-minute walk to align with the policy changes and guidance, and coordinate with their pulmonary function testing laboratories to schedule additional tests for lung candidates. There is no anticipated impact to organ procurement organizations or histocompatibility laboratories.

Updated policies and new guidance will be published to the OPTN website. Help documentation for six-minute walk distance will be published in the OPTN Waiting List.

## Affected Policy Language

New language is underlined (example) and language that is deleted is struck through (~~example~~).

### 10.1.A.1 Waitlist Survival Points for Candidates at least 12 Years Old

For candidates at least 12 years old at the time of the match run lung waitlist survival points are awarded based on the candidate's waiting list survival probability, based on the following factors:

- Age at the time of the match run (fractional calendar years)
- Bilirubin (mg/dL) value with the most recent test date and time
- Body mass index (BMI) (kg/m<sup>2</sup>)
- Assisted ventilation
- Creatinine (serum) (mg/dL) with the most recent test date and time
- Diagnosis Group (A, B, C, or D), as defined in Policy 10.1.F Lung Disease Diagnosis Groups
- Whether the candidate has one of the following specific diagnoses within Diagnosis Group A:
  - Bronchiectasis
  - Sarcoidosis with pulmonary artery (PA) mean pressure of 30 mm Hg or less
  - Sarcoidosis with PA mean pressure missing

- Whether the candidate has one of the following specific diagnoses within Diagnosis Group D:
  - COVID-19: pulmonary fibrosis
  - Pulmonary fibrosis, other specify cause
  - Sarcoidosis with PA mean pressure greater than 30 mm Hg
- Functional Status
- Oxygen needed to maintain adequate oxygen saturation (88% or greater) at rest (L/min)
- PCO<sub>2</sub> (mm Hg): current
- PCO<sub>2</sub> increase of at least 15%
- PA systolic pressure (mm Hg) at rest, prior to any exercise
- Six-minute walk distance (feet) ~~obtained while the candidate is receiving supplemental oxygen required to maintain an oxygen saturation of 88% or greater at rest. Increase in supplemental oxygen during this test is at the discretion of the center performing the test.~~

Lung waitlist survival points are awarded on a scale of 0-25. *Policy 21.1.A: Waiting List Survival Formulas* details the calculation of lung waitlist survival points.

#### 10.1.B.1 Post-Transplant Outcomes Points for Candidates at Least 12 Years Old

For candidates at least 12 years old at the time of the match run, lung post-transplant outcomes points are awarded based on the candidate's post-transplant survival probability, based on the following factors:

- Age at the time of the match run (fractional calendar years)
- Creatinine (serum) (mg/dL) with the most recent data and time
- Cardiac index (L/min/m<sup>2</sup>) at rest, prior to any exercise
- Assisted ventilation
- Diagnosis Group (A, B, C, or D), as defined in 10.1.F: Lung Disease Diagnosis Groups
- Whether the candidate has one of the following specific diagnoses within Diagnosis Group A:
  - Bronchiectasis
  - Lymphangioleiomyomatosis
  - Sarcoidosis with PA mean pressure of 30 mm Hg or less
  - Sarcoidosis with PA mean pressure missing
- Whether the candidate has one of the following specific diagnoses within Diagnosis Group D:
  - COVID-19: pulmonary fibrosis
  - Obliterative bronchiolitis (non-retransplant)
  - Constrictive bronchiolitis
  - Sarcoidosis with PA mean pressure greater than 30 mm Hg
  - Pulmonary fibrosis, other specify cause
- Functional Status
- Six-minute walk distance (feet) ~~obtained while the candidate is receiving supplemental oxygen required to maintain an oxygen saturation of 88% or greater at rest. Increase in supplemental oxygen during this test is at the discretion of the center performing the test.~~

Lung post-transplant outcome points are awarded on a scale of 0-25. *Policy 21.1.B: Post-Transplant Outcomes Formulas* details the calculation of lung post-transplant outcomes points.

[...]

### 10.3 Clinical Values and Update Schedule

Transplant programs must report to the OPTN clinical data corresponding with the factors outlined in *Policy 10.1.A.1: Waitlist Survival Points for Candidates at least 12 Years Old* and *10.1.B.1: Post Transplant Outcomes Points for Candidates at Least 12 Years Old*.

For any six-minute walk distances reported during the six months preceding a candidate turning 12 years old, and for any initial six-minute walk distances reported for candidates at least 12 years old, transplant programs must perform an oxygen titration test prior to conducting the six-minute walk test for a candidate on the lung waiting list. The final amount of supplemental oxygen from the oxygen titration test must be the amount provided to the candidate at the start of the six-minute walk test and documented in the candidate's medical record.

For six-minute walk distances reported prior to the six months preceding the candidate turning 12 years old, and for any subsequent updates to the six-minute walk distance according to *Policy 10.3.B Lung Clinical Values That Must Be Updated Every Six Months*, transplant programs may conduct an oxygen titration test prior to the six-minute walk test and may modify the amount of supplemental oxygen provided to the candidate at the start of the six-minute walk test.

The data reported at the time of the candidate's registration on the lung transplant waiting list must be six months old or less from the date of the candidate's registration date, with the exception of the following values:

- Cardiac index (L/min/m<sup>2</sup>) at rest, prior to any exercise
- PA mean pressure
- Pulmonary artery (PA) systolic pressure (mm Hg) at rest, prior to any exercise

The transplant program must maintain source documentation for all clinical values reported in the candidate's medical chart.

[...]

#### 10.3.B Lung Clinical Values That Must Be Updated Every Six Months

Transplant hospitals programs must update all of the following clinical values at least once in every six month period following registration for each candidate on the lung waiting list:

- Bilirubin (mg/dL) value with the most recent test date and time
- Weight to determine body mass index (BMI) (kg/m<sup>2</sup>)
- Creatinine (serum) (mg/dL) value with the most recent test date and time
- Functional Status
- Amount of supplemental oxygen required to maintain adequate oxygen saturation (88% or greater) (L/min)
- PCO<sub>2</sub> (mm Hg)
- Six-minute walk distance (feet) ~~obtained while the candidate is receiving supplemental oxygen required to maintain an oxygen saturation of 88% or greater at rest. Increase in supplemental oxygen during this test is at the discretion of the center performing the test.~~
- Assisted ventilation status

The transplant program must maintain source documentation for all clinical values reported in the candidate's medical chart.

Candidates who are less than 12 years old and are assigned priority 1 based on evidence of respiratory failure in accordance with *Policy 10.1.A.2.a Candidates Less Than 12 Years Old - Priority 1* will be assigned to priority 2 if the clinical values that qualify the candidates for priority 1 are more than six months old on the six-month anniversary of the candidate's listing date.

## 21.2.A Values Used in the Calculation of Lung Waiting List Survival

Table 21-3 provides the covariates and their coefficients for the waiting list mortality calculation. See *Policy 10.1.F.i: Lung Disease Diagnosis Groups* for specific information on each diagnosis group.

**Table 21-3: Waiting List Survival Calculation: Covariates and their Coefficients**

For this covariate:	When	The following coefficient is used in the lung waiting list survival calculation:
Age at the time of the match run (fractional calendar year)	All candidates <u>Candidates are at least 12 years old</u>	0.0281444188123287*age
[...]		
Six-minute walk distance (feet)	<del>Obtained while the candidate is receiving supplemental oxygen required to maintain an oxygen saturation of 88% or greater at rest.</del> <u>Candidates are at least 12 years old</u>	-0.09937981549564*Six-minute walk distance/100

[...]

## 21.2.B.1 Coefficients Used in Calculating Lung Post-Transplant Outcomes

Table 21-6: Post-Transplant Outcomes Calculation: Covariates and Their Coefficients lists the covariates and corresponding coefficients in the waiting list and post-transplant survival measures. See *Policy 10.1.F: Lung Disease Diagnosis Groups* for specific information on each diagnosis group.

**Table 21-6: Post-Transplant Outcomes Calculation: Covariates and Their Coefficients**

For this covariate	When	The following coefficient is used in the lung post-transplant outcomes score calculation
[...]		
Six-minute walk distance (feet) obtained while candidate is receiving supplemental oxygen required to maintain an oxygen saturation of 88% or greater at rest. Increase in supplemental oxygen during this test is at the discretion of the center performing the test.	Less than 200 feet	$-0.0002535116049789 \times (200 - \text{Six-minute walk distance}) + 0.11168755$
	At least 200 feet and less than 600 feet	$-0.0002841805913329 \times (\text{Six-minute walk distance} - 200) + 0.11168755$
	At least 600 feet and less than 800 feet	$-0.0000049617083362 \times (\text{Six-minute walk distance} - 600) - 0.00198468$
	At least 800 feet and less than 1,200 feet	$-0.0001950464256370 \times (\text{Six-minute walk distance} - 800) - 0.00297703$
	At least 1,200 feet and less than 1,600 feet	$-0.0007428583659073 \times (\text{Six-minute walk distance} - 1200) - 0.08099560$
	At least 1,600 feet	$0.0035374143842919 \times (\text{Six-minute walk distance} - 1600) - 0.37813894$

[...]

### **ENACTMENT CLAUSE:**

**For lung candidates registered prior to September 3, 2024, who are at least 11 years 6 months old on September 3, 2024, transplant programs must perform an oxygen titration test prior to conducting the six-minute walk test for reporting a six-minute walk distance by March 3, 2025.**

## Guidance Language

New language is underlined (example) and language that is deleted is struck through (~~example~~).

# Guidance for Conducting the Six-Minute Walk Test for Lung Allocation

Per OPTN Policy 10.3.B Lung Clinical Values That Must Be Updated Every Six Months, transplant hospitals must update the six-minute walk distance in feet for each lung candidate at least once in every six-month period following registration on the waiting list. This guidance offers recommendations for performing the six-minute walk test to promote standardization across transplant programs in how the six-minute walk distance is reported for the purposes of lung allocation. Transplant programs are advised to follow the 2002 American Thoracic Society Guidelines for the Six-Minute Walk Test<sup>1</sup> and the 2014 European Respiratory Society/American Thoracic Society technical standard on field walking tests in chronic respiratory disease<sup>2</sup> to the extent possible. If the walk distance is measured in meters, use **Appendix A** to convert the walk distance from meters to feet.

## Provision of Supplemental Oxygen

The 2014 technical standard states, “Oxygen is not to be titrated during any of the tests where distance is a measured outcome. If oxygen titration is desired, this should be done during a separate test.”<sup>3</sup> Per OPTN Policy 10.3 Clinical Values and Update Schedule, transplant hospitals must conduct an oxygen titration test to determine the amount of supplemental oxygen that should be provided to the candidate during the candidate’s initial six-minute walk test. This requirement applies to candidates at least 12 years old and for six-minute walk distances reported during the six months preceding a candidate turning 12 years old. Accordingly, transplant programs are advised to perform the oxygen titration test as close in time ahead of the six-minute walk test as is feasible but no more than 12 weeks prior to the six-minute walk test. Pediatric lung transplant programs are advised to ensure that candidates approaching 12 years old complete an oxygen titration test ahead of the six-minute walk test for the six-minute walk distance reported within six months before the candidate turns 12 years of age. The intent of performing the oxygen titration test ahead of the six-minute walk test is to provide a standardized approach for determining supplemental oxygen needs for completing the test and to avoid titration during the test so as not to interfere with the candidate’s performance. Accordingly, transplant programs are advised to perform the oxygen titration test as close in time ahead of the six-minute walk test as is feasible but no more than 12 weeks prior to the six-minute walk test. A sample oxygen titration protocol is enclosed in **Appendix B**. If a candidate desaturates during the six-minute walk test, the transplant program may provide additional supplemental oxygen to enable the candidate to complete the test.

Per OPTN Policy 10.3.B Lung Clinical Values That Must Be Updated Every Six Months, the six-minute walk distance must be updated at least once in every six-month period following registration for each

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<sup>1</sup> “Guidelines for the Six-Minute Walk Test,” American Thoracic Society, March 2002, accessed October 9, 2023, available <https://www.atsjournals.org/doi/10.1164/ajrccm.166.1.at1102>.

<sup>2</sup> Anne E. Holland, Martijn A. Spruit, Thierry Troosters, et al., “An official European Respiratory Society/American Thoracic Society technical standard: field walking tests in chronic respiratory disease,” *European Respiratory Journal* 44 (2014): 1428-1446, DOI: 10.1183/09031936.00150314.

<sup>3</sup> Holland et al., “Field walking tests,” 1438.



candidate on the lung waiting list. To align with this timing, transplant programs are advised to perform the oxygen titration test at least once in every six-month period. Both the oxygen titration test and the six-minute walk test may be completed and updated more frequently if deemed appropriate by the transplant program due to a candidate's changing clinical status. However, transplant programs may determine that a candidate's supplemental oxygen needs are well established and that a separate oxygen titration test is not necessary prior to performing a six-minute walk test other than the candidate's initial six-minute walk test. For example, particularly for pediatric candidates, adherence to multiple test protocols in the same day may present a challenge and the candidates' oxygen needs with exertion may be well established.

## Safety Considerations

For most candidates, it is recommended that transplant programs provide supplemental oxygen to maintain a candidate's oxygen saturation of greater than 88% during the performance of the test. The 2014 technical standard states that the six-minute walk test "has an excellent safety profile" when the test is stopped if the patient's oxygen saturation falls below 80%.<sup>4</sup> Depending on the candidate's diagnosis and disease severity, lung transplant programs should not feel obligated to allow their candidates to desaturate below 80% before halting the test. For candidates who are unable to maintain an oxygen saturation of 88% of greater at rest but can safely complete the six-minute walk test, the transplant program may use a lower oxygen saturation threshold to guide supplemental oxygen needs.

If a candidate is unable to safely perform the six-minute walk test, then the test should not be performed, and the lung transplant program should report a walk distance of 0 feet for the candidate. However, lung transplant programs are advised to avoid entering a walk distance of 0 feet and to administer the six-minute walk test if it is deemed safe for a candidate to attempt the test, even if the candidate is not expected to walk far or is not expected to walk the full six minutes.

When a lung candidate is unable to complete the six-minute walk due to reasons unrelated to their lung disease severity (e.g., lower limb amputation, joint necrosis, etc.), the lung transplant program should report a walk distance of 0 feet for the candidate. The transplant program may submit an exception request for the post-transplant outcomes component of the candidate's lung composite allocation score. In this case, transplant programs should estimate the candidate's six-minute walk distance based on the documented walk distance of candidates with similar levels of fitness and enter that value into the CAS calculator<sup>5</sup> along with the candidate's other characteristics to determine the estimated post-transplant outcomes subscore for that candidate were they able to complete the six-minute walk test. The transplant program should then divide this value by the total possible number of points for post-transplant outcomes and multiply by 100 to determine the percentage that should be entered into the exception request form. The exception request will be reviewed and adjudicated as outlined in OPTN *Policy 10.2 Lung Composite Score Exceptions* and the Lung Review Board Operational Guidelines.<sup>6</sup>

## Altitude Considerations

Some candidates may live at an altitude that is different enough from their transplant program that the candidates require different levels of supplemental oxygen when at the transplant center relative to

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<sup>4</sup> Holland et al., "Field walking tests," 1433.

<sup>5</sup> "Lung CAS Calculator," OPTN, accessed October 9, 2023, available <https://optn.transplant.hrsa.gov/data/allocation-calculators/lung-cas-calculator/>.

<sup>6</sup> "Lung Review Board Operational Guidelines," OPTN, accessed October 9, 2023, available <https://optn.transplant.hrsa.gov/about/review-boards/>.

what they use at home.<sup>7</sup> Transplant programs located in areas where residential altitude varies widely are advised to perform the oxygen titration test and the six-minute walk test at their transplant hospital when possible so that all candidates registered at the program are performing these tests at the same altitude. This approach will help to ensure that the six-minute walk distances reported for each candidate registered at the program are being measured consistently.

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<sup>7</sup> Deirdre Caffrey, J. Jaime Miranda, Robert H. Gilman, et al., "A cross-sectional study of differences in 6-min walk distance in health adults residing at high altitude versus sea level," *Extreme Physiology & Medicine* 3, no. 3 (2014), <https://extremephysiolmed.biomedcentral.com/articles/10.1186/2046-7648-3-3>.

## Appendix A: Convert Walk Distance from Meters to Feet

Six-minute walk distance is entered in OPTN Waiting List as a whole number measured in feet. The following table is provided for converting six-minute walk distances measured in meters to a whole number in feet, where one meter is equal to 3.28084 feet. The value was rounded up to the next whole number if the converted value in feet ended in a decimal value of at least 0.5.

<u>Meters</u>	<u>Feet</u>	<u>Meters</u>	<u>Feet</u>	<u>Meters</u>	<u>Feet</u>	<u>Meters</u>	<u>Feet</u>
<u>0</u>	<u>0</u>	<u>36</u>	<u>118</u>	<u>72</u>	<u>236</u>	<u>108</u>	<u>354</u>
<u>1</u>	<u>3</u>	<u>37</u>	<u>121</u>	<u>73</u>	<u>240</u>	<u>109</u>	<u>358</u>
<u>2</u>	<u>7</u>	<u>38</u>	<u>125</u>	<u>74</u>	<u>243</u>	<u>110</u>	<u>361</u>
<u>3</u>	<u>10</u>	<u>39</u>	<u>128</u>	<u>75</u>	<u>246</u>	<u>111</u>	<u>364</u>
<u>4</u>	<u>13</u>	<u>40</u>	<u>131</u>	<u>76</u>	<u>249</u>	<u>112</u>	<u>367</u>
<u>5</u>	<u>16</u>	<u>41</u>	<u>135</u>	<u>77</u>	<u>253</u>	<u>113</u>	<u>371</u>
<u>6</u>	<u>20</u>	<u>42</u>	<u>138</u>	<u>78</u>	<u>256</u>	<u>114</u>	<u>374</u>
<u>7</u>	<u>23</u>	<u>43</u>	<u>141</u>	<u>79</u>	<u>259</u>	<u>115</u>	<u>377</u>
<u>8</u>	<u>26</u>	<u>44</u>	<u>144</u>	<u>80</u>	<u>262</u>	<u>116</u>	<u>381</u>
<u>9</u>	<u>30</u>	<u>45</u>	<u>148</u>	<u>81</u>	<u>266</u>	<u>117</u>	<u>384</u>
<u>10</u>	<u>33</u>	<u>46</u>	<u>151</u>	<u>82</u>	<u>269</u>	<u>118</u>	<u>387</u>
<u>11</u>	<u>36</u>	<u>47</u>	<u>154</u>	<u>83</u>	<u>272</u>	<u>119</u>	<u>390</u>
<u>12</u>	<u>39</u>	<u>48</u>	<u>157</u>	<u>84</u>	<u>276</u>	<u>120</u>	<u>394</u>
<u>13</u>	<u>43</u>	<u>49</u>	<u>161</u>	<u>85</u>	<u>279</u>	<u>121</u>	<u>397</u>
<u>14</u>	<u>46</u>	<u>50</u>	<u>164</u>	<u>86</u>	<u>282</u>	<u>122</u>	<u>400</u>
<u>15</u>	<u>49</u>	<u>51</u>	<u>167</u>	<u>87</u>	<u>285</u>	<u>123</u>	<u>404</u>
<u>16</u>	<u>52</u>	<u>52</u>	<u>171</u>	<u>88</u>	<u>289</u>	<u>124</u>	<u>407</u>
<u>17</u>	<u>56</u>	<u>53</u>	<u>174</u>	<u>89</u>	<u>292</u>	<u>125</u>	<u>410</u>
<u>18</u>	<u>59</u>	<u>54</u>	<u>177</u>	<u>90</u>	<u>295</u>	<u>126</u>	<u>413</u>
<u>19</u>	<u>62</u>	<u>55</u>	<u>180</u>	<u>91</u>	<u>299</u>	<u>127</u>	<u>417</u>
<u>20</u>	<u>66</u>	<u>56</u>	<u>184</u>	<u>92</u>	<u>302</u>	<u>128</u>	<u>420</u>
<u>21</u>	<u>69</u>	<u>57</u>	<u>187</u>	<u>93</u>	<u>305</u>	<u>129</u>	<u>423</u>
<u>22</u>	<u>72</u>	<u>58</u>	<u>190</u>	<u>94</u>	<u>308</u>	<u>130</u>	<u>427</u>
<u>23</u>	<u>75</u>	<u>59</u>	<u>194</u>	<u>95</u>	<u>312</u>	<u>131</u>	<u>430</u>
<u>24</u>	<u>79</u>	<u>60</u>	<u>197</u>	<u>96</u>	<u>315</u>	<u>132</u>	<u>433</u>
<u>25</u>	<u>82</u>	<u>61</u>	<u>200</u>	<u>97</u>	<u>318</u>	<u>133</u>	<u>436</u>
<u>26</u>	<u>85</u>	<u>62</u>	<u>203</u>	<u>98</u>	<u>322</u>	<u>134</u>	<u>440</u>
<u>27</u>	<u>89</u>	<u>63</u>	<u>207</u>	<u>99</u>	<u>325</u>	<u>135</u>	<u>443</u>
<u>28</u>	<u>92</u>	<u>64</u>	<u>210</u>	<u>100</u>	<u>328</u>	<u>136</u>	<u>446</u>
<u>29</u>	<u>95</u>	<u>65</u>	<u>213</u>	<u>101</u>	<u>331</u>	<u>137</u>	<u>449</u>
<u>30</u>	<u>98</u>	<u>66</u>	<u>217</u>	<u>102</u>	<u>335</u>	<u>138</u>	<u>453</u>
<u>31</u>	<u>102</u>	<u>67</u>	<u>220</u>	<u>103</u>	<u>338</u>	<u>139</u>	<u>456</u>
<u>32</u>	<u>105</u>	<u>68</u>	<u>223</u>	<u>104</u>	<u>341</u>	<u>140</u>	<u>459</u>
<u>33</u>	<u>108</u>	<u>69</u>	<u>226</u>	<u>105</u>	<u>344</u>	<u>141</u>	<u>463</u>
<u>34</u>	<u>112</u>	<u>70</u>	<u>230</u>	<u>106</u>	<u>348</u>	<u>142</u>	<u>466</u>
<u>35</u>	<u>115</u>	<u>71</u>	<u>233</u>	<u>107</u>	<u>351</u>	<u>143</u>	<u>469</u>

<u>Meters</u>	<u>Feet</u>
<u>144</u>	<u>472</u>
<u>145</u>	<u>476</u>
<u>146</u>	<u>479</u>
<u>147</u>	<u>482</u>
<u>148</u>	<u>486</u>
<u>149</u>	<u>489</u>
<u>150</u>	<u>492</u>
<u>151</u>	<u>495</u>
<u>152</u>	<u>499</u>
<u>153</u>	<u>502</u>
<u>154</u>	<u>505</u>
<u>155</u>	<u>509</u>
<u>156</u>	<u>512</u>
<u>157</u>	<u>515</u>
<u>158</u>	<u>518</u>
<u>159</u>	<u>522</u>
<u>160</u>	<u>525</u>
<u>161</u>	<u>528</u>
<u>162</u>	<u>531</u>
<u>163</u>	<u>535</u>
<u>164</u>	<u>538</u>
<u>165</u>	<u>541</u>
<u>166</u>	<u>545</u>
<u>167</u>	<u>548</u>
<u>168</u>	<u>551</u>
<u>169</u>	<u>554</u>
<u>170</u>	<u>558</u>
<u>171</u>	<u>561</u>
<u>172</u>	<u>564</u>
<u>173</u>	<u>568</u>
<u>174</u>	<u>571</u>
<u>175</u>	<u>574</u>
<u>176</u>	<u>577</u>
<u>177</u>	<u>581</u>
<u>178</u>	<u>584</u>
<u>179</u>	<u>587</u>
<u>180</u>	<u>591</u>
<u>181</u>	<u>594</u>
<u>182</u>	<u>597</u>
<u>183</u>	<u>600</u>
<u>184</u>	<u>604</u>
<u>185</u>	<u>607</u>

<u>Meters</u>	<u>Feet</u>
<u>186</u>	<u>610</u>
<u>187</u>	<u>614</u>
<u>188</u>	<u>617</u>
<u>189</u>	<u>620</u>
<u>190</u>	<u>623</u>
<u>191</u>	<u>627</u>
<u>192</u>	<u>630</u>
<u>193</u>	<u>633</u>
<u>194</u>	<u>636</u>
<u>195</u>	<u>640</u>
<u>196</u>	<u>643</u>
<u>197</u>	<u>646</u>
<u>198</u>	<u>650</u>
<u>199</u>	<u>653</u>
<u>200</u>	<u>656</u>
<u>201</u>	<u>659</u>
<u>202</u>	<u>663</u>
<u>203</u>	<u>666</u>
<u>204</u>	<u>669</u>
<u>205</u>	<u>673</u>
<u>206</u>	<u>676</u>
<u>207</u>	<u>679</u>
<u>208</u>	<u>682</u>
<u>209</u>	<u>686</u>
<u>210</u>	<u>689</u>
<u>211</u>	<u>692</u>
<u>212</u>	<u>696</u>
<u>213</u>	<u>699</u>
<u>214</u>	<u>702</u>
<u>215</u>	<u>705</u>
<u>216</u>	<u>709</u>
<u>217</u>	<u>712</u>
<u>218</u>	<u>715</u>
<u>219</u>	<u>719</u>
<u>220</u>	<u>722</u>
<u>221</u>	<u>725</u>
<u>222</u>	<u>728</u>
<u>223</u>	<u>732</u>
<u>224</u>	<u>735</u>
<u>225</u>	<u>738</u>
<u>226</u>	<u>741</u>
<u>227</u>	<u>745</u>

<u>Meters</u>	<u>Feet</u>
<u>228</u>	<u>748</u>
<u>229</u>	<u>751</u>
<u>230</u>	<u>755</u>
<u>231</u>	<u>758</u>
<u>232</u>	<u>761</u>
<u>233</u>	<u>764</u>
<u>234</u>	<u>768</u>
<u>235</u>	<u>771</u>
<u>236</u>	<u>774</u>
<u>237</u>	<u>778</u>
<u>238</u>	<u>781</u>
<u>239</u>	<u>784</u>
<u>240</u>	<u>787</u>
<u>241</u>	<u>791</u>
<u>242</u>	<u>794</u>
<u>243</u>	<u>797</u>
<u>244</u>	<u>801</u>
<u>245</u>	<u>804</u>
<u>246</u>	<u>807</u>
<u>247</u>	<u>810</u>
<u>248</u>	<u>814</u>
<u>249</u>	<u>817</u>
<u>250</u>	<u>820</u>
<u>251</u>	<u>823</u>
<u>252</u>	<u>827</u>
<u>253</u>	<u>830</u>
<u>254</u>	<u>833</u>
<u>255</u>	<u>837</u>
<u>256</u>	<u>840</u>
<u>257</u>	<u>843</u>
<u>258</u>	<u>846</u>
<u>259</u>	<u>850</u>
<u>260</u>	<u>853</u>
<u>261</u>	<u>856</u>
<u>262</u>	<u>860</u>
<u>263</u>	<u>863</u>
<u>264</u>	<u>866</u>
<u>265</u>	<u>869</u>
<u>266</u>	<u>873</u>
<u>267</u>	<u>876</u>
<u>268</u>	<u>879</u>
<u>269</u>	<u>883</u>

<u>Meters</u>	<u>Feet</u>
<u>270</u>	<u>886</u>
<u>271</u>	<u>889</u>
<u>272</u>	<u>892</u>
<u>273</u>	<u>896</u>
<u>274</u>	<u>899</u>
<u>275</u>	<u>902</u>
<u>276</u>	<u>906</u>
<u>277</u>	<u>909</u>
<u>278</u>	<u>912</u>
<u>279</u>	<u>915</u>
<u>280</u>	<u>919</u>
<u>281</u>	<u>922</u>
<u>282</u>	<u>925</u>
<u>283</u>	<u>928</u>
<u>284</u>	<u>932</u>
<u>285</u>	<u>935</u>
<u>286</u>	<u>938</u>
<u>287</u>	<u>942</u>
<u>288</u>	<u>945</u>
<u>289</u>	<u>948</u>
<u>290</u>	<u>951</u>
<u>291</u>	<u>955</u>
<u>292</u>	<u>958</u>
<u>293</u>	<u>961</u>
<u>294</u>	<u>965</u>
<u>295</u>	<u>968</u>
<u>296</u>	<u>971</u>
<u>297</u>	<u>974</u>
<u>298</u>	<u>978</u>
<u>299</u>	<u>981</u>
<u>300</u>	<u>984</u>
<u>301</u>	<u>988</u>
<u>302</u>	<u>991</u>
<u>303</u>	<u>994</u>
<u>304</u>	<u>997</u>
<u>305</u>	<u>1001</u>
<u>306</u>	<u>1004</u>
<u>307</u>	<u>1007</u>
<u>308</u>	<u>1010</u>
<u>309</u>	<u>1014</u>
<u>310</u>	<u>1017</u>
<u>311</u>	<u>1020</u>

<u>Meters</u>	<u>Feet</u>
<u><b>312</b></u>	<u>1024</u>
<u><b>313</b></u>	<u>1027</u>
<u><b>314</b></u>	<u>1030</u>
<u><b>315</b></u>	<u>1033</u>
<u><b>316</b></u>	<u>1037</u>
<u><b>317</b></u>	<u>1040</u>
<u><b>318</b></u>	<u>1043</u>
<u><b>319</b></u>	<u>1047</u>
<u><b>320</b></u>	<u>1050</u>
<u><b>321</b></u>	<u>1053</u>
<u><b>322</b></u>	<u>1056</u>
<u><b>323</b></u>	<u>1060</u>
<u><b>324</b></u>	<u>1063</u>
<u><b>325</b></u>	<u>1066</u>
<u><b>326</b></u>	<u>1070</u>
<u><b>327</b></u>	<u>1073</u>
<u><b>328</b></u>	<u>1076</u>
<u><b>329</b></u>	<u>1079</u>
<u><b>330</b></u>	<u>1083</u>
<u><b>331</b></u>	<u>1086</u>
<u><b>332</b></u>	<u>1089</u>
<u><b>333</b></u>	<u>1093</u>
<u><b>334</b></u>	<u>1096</u>
<u><b>335</b></u>	<u>1099</u>
<u><b>336</b></u>	<u>1102</u>
<u><b>337</b></u>	<u>1106</u>
<u><b>338</b></u>	<u>1109</u>
<u><b>339</b></u>	<u>1112</u>
<u><b>340</b></u>	<u>1115</u>
<u><b>341</b></u>	<u>1119</u>
<u><b>342</b></u>	<u>1122</u>
<u><b>343</b></u>	<u>1125</u>
<u><b>344</b></u>	<u>1129</u>
<u><b>345</b></u>	<u>1132</u>
<u><b>346</b></u>	<u>1135</u>
<u><b>347</b></u>	<u>1138</u>
<u><b>348</b></u>	<u>1142</u>
<u><b>349</b></u>	<u>1145</u>
<u><b>350</b></u>	<u>1148</u>
<u><b>351</b></u>	<u>1152</u>
<u><b>352</b></u>	<u>1155</u>
<u><b>353</b></u>	<u>1158</u>

<u>Meters</u>	<u>Feet</u>
<u><b>354</b></u>	<u>1161</u>
<u><b>355</b></u>	<u>1165</u>
<u><b>356</b></u>	<u>1168</u>
<u><b>357</b></u>	<u>1171</u>
<u><b>358</b></u>	<u>1175</u>
<u><b>359</b></u>	<u>1178</u>
<u><b>360</b></u>	<u>1181</u>
<u><b>361</b></u>	<u>1184</u>
<u><b>362</b></u>	<u>1188</u>
<u><b>363</b></u>	<u>1191</u>
<u><b>364</b></u>	<u>1194</u>
<u><b>365</b></u>	<u>1198</u>
<u><b>366</b></u>	<u>1201</u>
<u><b>367</b></u>	<u>1204</u>
<u><b>368</b></u>	<u>1207</u>
<u><b>369</b></u>	<u>1211</u>
<u><b>370</b></u>	<u>1214</u>
<u><b>371</b></u>	<u>1217</u>
<u><b>372</b></u>	<u>1220</u>
<u><b>373</b></u>	<u>1224</u>
<u><b>374</b></u>	<u>1227</u>
<u><b>375</b></u>	<u>1230</u>
<u><b>376</b></u>	<u>1234</u>
<u><b>377</b></u>	<u>1237</u>
<u><b>378</b></u>	<u>1240</u>
<u><b>379</b></u>	<u>1243</u>
<u><b>380</b></u>	<u>1247</u>
<u><b>381</b></u>	<u>1250</u>
<u><b>382</b></u>	<u>1253</u>
<u><b>383</b></u>	<u>1257</u>
<u><b>384</b></u>	<u>1260</u>
<u><b>385</b></u>	<u>1263</u>
<u><b>386</b></u>	<u>1266</u>
<u><b>387</b></u>	<u>1270</u>
<u><b>388</b></u>	<u>1273</u>
<u><b>389</b></u>	<u>1276</u>
<u><b>390</b></u>	<u>1280</u>
<u><b>391</b></u>	<u>1283</u>
<u><b>392</b></u>	<u>1286</u>
<u><b>393</b></u>	<u>1289</u>
<u><b>394</b></u>	<u>1293</u>
<u><b>395</b></u>	<u>1296</u>

<u>Meters</u>	<u>Feet</u>
<u><b>396</b></u>	<u>1299</u>
<u><b>397</b></u>	<u>1302</u>
<u><b>398</b></u>	<u>1306</u>
<u><b>399</b></u>	<u>1309</u>
<u><b>400</b></u>	<u>1312</u>
<u><b>401</b></u>	<u>1316</u>
<u><b>402</b></u>	<u>1319</u>
<u><b>403</b></u>	<u>1322</u>
<u><b>404</b></u>	<u>1325</u>
<u><b>405</b></u>	<u>1329</u>
<u><b>406</b></u>	<u>1332</u>
<u><b>407</b></u>	<u>1335</u>
<u><b>408</b></u>	<u>1339</u>
<u><b>409</b></u>	<u>1342</u>
<u><b>410</b></u>	<u>1345</u>
<u><b>411</b></u>	<u>1348</u>
<u><b>412</b></u>	<u>1352</u>
<u><b>413</b></u>	<u>1355</u>
<u><b>414</b></u>	<u>1358</u>
<u><b>415</b></u>	<u>1362</u>
<u><b>416</b></u>	<u>1365</u>
<u><b>417</b></u>	<u>1368</u>
<u><b>418</b></u>	<u>1371</u>
<u><b>419</b></u>	<u>1375</u>
<u><b>420</b></u>	<u>1378</u>
<u><b>421</b></u>	<u>1381</u>
<u><b>422</b></u>	<u>1385</u>
<u><b>423</b></u>	<u>1388</u>
<u><b>424</b></u>	<u>1391</u>
<u><b>425</b></u>	<u>1394</u>
<u><b>426</b></u>	<u>1398</u>
<u><b>427</b></u>	<u>1401</u>
<u><b>428</b></u>	<u>1404</u>
<u><b>429</b></u>	<u>1407</u>
<u><b>430</b></u>	<u>1411</u>
<u><b>431</b></u>	<u>1414</u>
<u><b>432</b></u>	<u>1417</u>
<u><b>433</b></u>	<u>1421</u>
<u><b>434</b></u>	<u>1424</u>
<u><b>435</b></u>	<u>1427</u>
<u><b>436</b></u>	<u>1430</u>
<u><b>437</b></u>	<u>1434</u>

<u>Meters</u>	<u>Feet</u>
<u><b>438</b></u>	<u>1437</u>
<u><b>439</b></u>	<u>1440</u>
<u><b>440</b></u>	<u>1444</u>
<u><b>441</b></u>	<u>1447</u>
<u><b>442</b></u>	<u>1450</u>
<u><b>443</b></u>	<u>1453</u>
<u><b>444</b></u>	<u>1457</u>
<u><b>445</b></u>	<u>1460</u>
<u><b>446</b></u>	<u>1463</u>
<u><b>447</b></u>	<u>1467</u>
<u><b>448</b></u>	<u>1470</u>
<u><b>449</b></u>	<u>1473</u>
<u><b>450</b></u>	<u>1476</u>
<u><b>451</b></u>	<u>1480</u>
<u><b>452</b></u>	<u>1483</u>
<u><b>453</b></u>	<u>1486</u>
<u><b>454</b></u>	<u>1490</u>
<u><b>455</b></u>	<u>1493</u>
<u><b>456</b></u>	<u>1496</u>
<u><b>457</b></u>	<u>1499</u>
<u><b>458</b></u>	<u>1503</u>
<u><b>459</b></u>	<u>1506</u>
<u><b>460</b></u>	<u>1509</u>
<u><b>461</b></u>	<u>1512</u>
<u><b>462</b></u>	<u>1516</u>
<u><b>463</b></u>	<u>1519</u>
<u><b>464</b></u>	<u>1522</u>
<u><b>465</b></u>	<u>1526</u>
<u><b>466</b></u>	<u>1529</u>
<u><b>467</b></u>	<u>1532</u>
<u><b>468</b></u>	<u>1535</u>
<u><b>469</b></u>	<u>1539</u>
<u><b>470</b></u>	<u>1542</u>
<u><b>471</b></u>	<u>1545</u>
<u><b>472</b></u>	<u>1549</u>
<u><b>473</b></u>	<u>1552</u>
<u><b>474</b></u>	<u>1555</u>
<u><b>475</b></u>	<u>1558</u>
<u><b>476</b></u>	<u>1562</u>
<u><b>477</b></u>	<u>1565</u>
<u><b>478</b></u>	<u>1568</u>
<u><b>479</b></u>	<u>1572</u>

<u>Meters</u>	<u>Feet</u>
<u>480</u>	<u>1575</u>
<u>481</u>	<u>1578</u>
<u>482</u>	<u>1581</u>
<u>483</u>	<u>1585</u>
<u>484</u>	<u>1588</u>
<u>485</u>	<u>1591</u>
<u>486</u>	<u>1594</u>
<u>487</u>	<u>1598</u>
<u>488</u>	<u>1601</u>
<u>489</u>	<u>1604</u>
<u>490</u>	<u>1608</u>
<u>491</u>	<u>1611</u>
<u>492</u>	<u>1614</u>
<u>493</u>	<u>1617</u>
<u>494</u>	<u>1621</u>
<u>495</u>	<u>1624</u>
<u>496</u>	<u>1627</u>
<u>497</u>	<u>1631</u>
<u>498</u>	<u>1634</u>
<u>499</u>	<u>1637</u>
<u>500</u>	<u>1640</u>
<u>501</u>	<u>1644</u>
<u>502</u>	<u>1647</u>
<u>503</u>	<u>1650</u>
<u>504</u>	<u>1654</u>
<u>505</u>	<u>1657</u>
<u>506</u>	<u>1660</u>
<u>507</u>	<u>1663</u>
<u>508</u>	<u>1667</u>
<u>509</u>	<u>1670</u>
<u>510</u>	<u>1673</u>
<u>511</u>	<u>1677</u>
<u>512</u>	<u>1680</u>
<u>513</u>	<u>1683</u>
<u>514</u>	<u>1686</u>
<u>515</u>	<u>1690</u>
<u>516</u>	<u>1693</u>
<u>517</u>	<u>1696</u>
<u>518</u>	<u>1699</u>
<u>519</u>	<u>1703</u>
<u>520</u>	<u>1706</u>
<u>521</u>	<u>1709</u>

<u>Meters</u>	<u>Feet</u>
<u>522</u>	<u>1713</u>
<u>523</u>	<u>1716</u>
<u>524</u>	<u>1719</u>
<u>525</u>	<u>1722</u>
<u>526</u>	<u>1726</u>
<u>527</u>	<u>1729</u>
<u>528</u>	<u>1732</u>
<u>529</u>	<u>1736</u>
<u>530</u>	<u>1739</u>
<u>531</u>	<u>1742</u>
<u>532</u>	<u>1745</u>
<u>533</u>	<u>1749</u>
<u>534</u>	<u>1752</u>
<u>535</u>	<u>1755</u>
<u>536</u>	<u>1759</u>
<u>537</u>	<u>1762</u>
<u>538</u>	<u>1765</u>
<u>539</u>	<u>1768</u>
<u>540</u>	<u>1772</u>
<u>541</u>	<u>1775</u>
<u>542</u>	<u>1778</u>
<u>543</u>	<u>1781</u>
<u>544</u>	<u>1785</u>
<u>545</u>	<u>1788</u>
<u>546</u>	<u>1791</u>
<u>547</u>	<u>1795</u>
<u>548</u>	<u>1798</u>
<u>549</u>	<u>1801</u>
<u>550</u>	<u>1804</u>
<u>551</u>	<u>1808</u>
<u>552</u>	<u>1811</u>
<u>553</u>	<u>1814</u>
<u>554</u>	<u>1818</u>
<u>555</u>	<u>1821</u>
<u>556</u>	<u>1824</u>
<u>557</u>	<u>1827</u>
<u>558</u>	<u>1831</u>
<u>559</u>	<u>1834</u>
<u>560</u>	<u>1837</u>
<u>561</u>	<u>1841</u>
<u>562</u>	<u>1844</u>
<u>563</u>	<u>1847</u>

<u>Meters</u>	<u>Feet</u>
<u>564</u>	<u>1850</u>
<u>565</u>	<u>1854</u>
<u>566</u>	<u>1857</u>
<u>567</u>	<u>1860</u>
<u>568</u>	<u>1864</u>
<u>569</u>	<u>1867</u>
<u>570</u>	<u>1870</u>
<u>571</u>	<u>1873</u>
<u>572</u>	<u>1877</u>
<u>573</u>	<u>1880</u>
<u>574</u>	<u>1883</u>
<u>575</u>	<u>1886</u>
<u>576</u>	<u>1890</u>
<u>577</u>	<u>1893</u>
<u>578</u>	<u>1896</u>
<u>579</u>	<u>1900</u>
<u>580</u>	<u>1903</u>
<u>581</u>	<u>1906</u>
<u>582</u>	<u>1909</u>
<u>583</u>	<u>1913</u>
<u>584</u>	<u>1916</u>
<u>585</u>	<u>1919</u>
<u>586</u>	<u>1923</u>
<u>587</u>	<u>1926</u>
<u>588</u>	<u>1929</u>
<u>589</u>	<u>1932</u>
<u>590</u>	<u>1936</u>
<u>591</u>	<u>1939</u>
<u>592</u>	<u>1942</u>
<u>593</u>	<u>1946</u>
<u>594</u>	<u>1949</u>
<u>595</u>	<u>1952</u>
<u>596</u>	<u>1955</u>
<u>597</u>	<u>1959</u>
<u>598</u>	<u>1962</u>
<u>599</u>	<u>1965</u>
<u>600</u>	<u>1969</u>
<u>601</u>	<u>1972</u>
<u>602</u>	<u>1975</u>
<u>603</u>	<u>1978</u>
<u>604</u>	<u>1982</u>
<u>605</u>	<u>1985</u>

<u>Meters</u>	<u>Feet</u>
<u>606</u>	<u>1988</u>
<u>607</u>	<u>1991</u>
<u>608</u>	<u>1995</u>
<u>609</u>	<u>1998</u>
<u>610</u>	<u>2001</u>
<u>611</u>	<u>2005</u>
<u>612</u>	<u>2008</u>
<u>613</u>	<u>2011</u>
<u>614</u>	<u>2014</u>
<u>615</u>	<u>2018</u>
<u>616</u>	<u>2021</u>
<u>617</u>	<u>2024</u>
<u>618</u>	<u>2028</u>
<u>619</u>	<u>2031</u>
<u>620</u>	<u>2034</u>
<u>621</u>	<u>2037</u>
<u>622</u>	<u>2041</u>
<u>623</u>	<u>2044</u>
<u>624</u>	<u>2047</u>
<u>625</u>	<u>2051</u>
<u>626</u>	<u>2054</u>
<u>627</u>	<u>2057</u>
<u>628</u>	<u>2060</u>
<u>629</u>	<u>2064</u>
<u>630</u>	<u>2067</u>
<u>631</u>	<u>2070</u>
<u>632</u>	<u>2073</u>
<u>633</u>	<u>2077</u>
<u>634</u>	<u>2080</u>
<u>635</u>	<u>2083</u>
<u>636</u>	<u>2087</u>
<u>637</u>	<u>2090</u>
<u>638</u>	<u>2093</u>
<u>639</u>	<u>2096</u>
<u>640</u>	<u>2100</u>
<u>641</u>	<u>2103</u>
<u>642</u>	<u>2106</u>
<u>643</u>	<u>2110</u>
<u>644</u>	<u>2113</u>
<u>645</u>	<u>2116</u>
<u>646</u>	<u>2119</u>
<u>647</u>	<u>2123</u>

<u>Meters</u>	<u>Feet</u>
<u>648</u>	<u>2126</u>
<u>649</u>	<u>2129</u>
<u>650</u>	<u>2133</u>
<u>651</u>	<u>2136</u>
<u>652</u>	<u>2139</u>
<u>653</u>	<u>2142</u>
<u>654</u>	<u>2146</u>
<u>655</u>	<u>2149</u>
<u>656</u>	<u>2152</u>
<u>657</u>	<u>2156</u>
<u>658</u>	<u>2159</u>
<u>659</u>	<u>2162</u>
<u>660</u>	<u>2165</u>
<u>661</u>	<u>2169</u>
<u>662</u>	<u>2172</u>
<u>663</u>	<u>2175</u>
<u>664</u>	<u>2178</u>
<u>665</u>	<u>2182</u>
<u>666</u>	<u>2185</u>
<u>667</u>	<u>2188</u>
<u>668</u>	<u>2192</u>
<u>669</u>	<u>2195</u>
<u>670</u>	<u>2198</u>
<u>671</u>	<u>2201</u>
<u>672</u>	<u>2205</u>
<u>673</u>	<u>2208</u>
<u>674</u>	<u>2211</u>
<u>675</u>	<u>2215</u>
<u>676</u>	<u>2218</u>
<u>677</u>	<u>2221</u>
<u>678</u>	<u>2224</u>
<u>679</u>	<u>2228</u>
<u>680</u>	<u>2231</u>
<u>681</u>	<u>2234</u>
<u>682</u>	<u>2238</u>
<u>683</u>	<u>2241</u>
<u>684</u>	<u>2244</u>
<u>685</u>	<u>2247</u>
<u>686</u>	<u>2251</u>
<u>687</u>	<u>2254</u>
<u>688</u>	<u>2257</u>
<u>689</u>	<u>2260</u>

<u>Meters</u>	<u>Feet</u>
<u>690</u>	<u>2264</u>
<u>691</u>	<u>2267</u>
<u>692</u>	<u>2270</u>
<u>693</u>	<u>2274</u>
<u>694</u>	<u>2277</u>
<u>695</u>	<u>2280</u>
<u>696</u>	<u>2283</u>
<u>697</u>	<u>2287</u>
<u>698</u>	<u>2290</u>
<u>699</u>	<u>2293</u>
<u>700</u>	<u>2297</u>
<u>701</u>	<u>2300</u>
<u>702</u>	<u>2303</u>
<u>703</u>	<u>2306</u>
<u>704</u>	<u>2310</u>
<u>705</u>	<u>2313</u>
<u>706</u>	<u>2316</u>
<u>707</u>	<u>2320</u>
<u>708</u>	<u>2323</u>
<u>709</u>	<u>2326</u>
<u>710</u>	<u>2329</u>
<u>711</u>	<u>2333</u>
<u>712</u>	<u>2336</u>
<u>713</u>	<u>2339</u>
<u>714</u>	<u>2343</u>
<u>715</u>	<u>2346</u>
<u>716</u>	<u>2349</u>
<u>717</u>	<u>2352</u>
<u>718</u>	<u>2356</u>
<u>719</u>	<u>2359</u>
<u>720</u>	<u>2362</u>
<u>721</u>	<u>2365</u>
<u>722</u>	<u>2369</u>
<u>723</u>	<u>2372</u>
<u>724</u>	<u>2375</u>
<u>725</u>	<u>2379</u>
<u>726</u>	<u>2382</u>
<u>727</u>	<u>2385</u>
<u>728</u>	<u>2388</u>
<u>729</u>	<u>2392</u>
<u>730</u>	<u>2395</u>
<u>731</u>	<u>2398</u>

<u>Meters</u>	<u>Feet</u>
<u>732</u>	<u>2402</u>
<u>733</u>	<u>2405</u>
<u>734</u>	<u>2408</u>
<u>735</u>	<u>2411</u>
<u>736</u>	<u>2415</u>
<u>737</u>	<u>2418</u>
<u>738</u>	<u>2421</u>
<u>739</u>	<u>2425</u>
<u>740</u>	<u>2428</u>
<u>741</u>	<u>2431</u>
<u>742</u>	<u>2434</u>
<u>743</u>	<u>2438</u>
<u>744</u>	<u>2441</u>
<u>745</u>	<u>2444</u>
<u>746</u>	<u>2448</u>
<u>747</u>	<u>2451</u>
<u>748</u>	<u>2454</u>
<u>749</u>	<u>2457</u>
<u>750</u>	<u>2461</u>
<u>751</u>	<u>2464</u>
<u>752</u>	<u>2467</u>
<u>753</u>	<u>2470</u>
<u>754</u>	<u>2474</u>
<u>755</u>	<u>2477</u>
<u>756</u>	<u>2480</u>
<u>757</u>	<u>2484</u>
<u>758</u>	<u>2487</u>
<u>759</u>	<u>2490</u>
<u>760</u>	<u>2493</u>
<u>761</u>	<u>2497</u>
<u>762</u>	<u>2500</u>
<u>763</u>	<u>2503</u>
<u>764</u>	<u>2507</u>
<u>765</u>	<u>2510</u>
<u>766</u>	<u>2513</u>
<u>767</u>	<u>2516</u>
<u>768</u>	<u>2520</u>
<u>769</u>	<u>2523</u>
<u>770</u>	<u>2526</u>
<u>771</u>	<u>2530</u>
<u>772</u>	<u>2533</u>
<u>773</u>	<u>2536</u>

<u>Meters</u>	<u>Feet</u>
<u>774</u>	<u>2539</u>
<u>775</u>	<u>2543</u>
<u>776</u>	<u>2546</u>
<u>777</u>	<u>2549</u>
<u>778</u>	<u>2552</u>
<u>779</u>	<u>2556</u>
<u>780</u>	<u>2559</u>
<u>781</u>	<u>2562</u>
<u>782</u>	<u>2566</u>
<u>783</u>	<u>2569</u>
<u>784</u>	<u>2572</u>
<u>785</u>	<u>2575</u>
<u>786</u>	<u>2579</u>
<u>787</u>	<u>2582</u>
<u>788</u>	<u>2585</u>
<u>789</u>	<u>2589</u>
<u>790</u>	<u>2592</u>
<u>791</u>	<u>2595</u>
<u>792</u>	<u>2598</u>
<u>793</u>	<u>2602</u>
<u>794</u>	<u>2605</u>
<u>795</u>	<u>2608</u>
<u>796</u>	<u>2612</u>
<u>797</u>	<u>2615</u>
<u>798</u>	<u>2618</u>
<u>799</u>	<u>2621</u>
<u>800</u>	<u>2625</u>
<u>801</u>	<u>2628</u>
<u>802</u>	<u>2631</u>
<u>803</u>	<u>2635</u>
<u>804</u>	<u>2638</u>
<u>805</u>	<u>2641</u>
<u>806</u>	<u>2644</u>
<u>807</u>	<u>2648</u>
<u>808</u>	<u>2651</u>
<u>809</u>	<u>2654</u>
<u>810</u>	<u>2657</u>
<u>811</u>	<u>2661</u>
<u>812</u>	<u>2664</u>
<u>813</u>	<u>2667</u>
<u>814</u>	<u>2671</u>
<u>815</u>	<u>2674</u>

Meters	Feet
<u>816</u>	<u>2677</u>
<u>817</u>	<u>2680</u>
<u>818</u>	<u>2684</u>
<u>819</u>	<u>2687</u>
<u>820</u>	<u>2690</u>
<u>821</u>	<u>2694</u>
<u>822</u>	<u>2697</u>
<u>823</u>	<u>2700</u>
<u>824</u>	<u>2703</u>
<u>825</u>	<u>2707</u>
<u>826</u>	<u>2710</u>
<u>827</u>	<u>2713</u>
<u>828</u>	<u>2717</u>
<u>829</u>	<u>2720</u>
<u>830</u>	<u>2723</u>
<u>831</u>	<u>2726</u>
<u>832</u>	<u>2730</u>
<u>833</u>	<u>2733</u>
<u>834</u>	<u>2736</u>
<u>835</u>	<u>2740</u>
<u>836</u>	<u>2743</u>
<u>837</u>	<u>2746</u>
<u>838</u>	<u>2749</u>
<u>839</u>	<u>2753</u>
<u>840</u>	<u>2756</u>
<u>841</u>	<u>2759</u>
<u>842</u>	<u>2762</u>
<u>843</u>	<u>2766</u>
<u>844</u>	<u>2769</u>
<u>845</u>	<u>2772</u>
<u>846</u>	<u>2776</u>
<u>847</u>	<u>2779</u>
<u>848</u>	<u>2782</u>
<u>849</u>	<u>2785</u>
<u>850</u>	<u>2789</u>
<u>851</u>	<u>2792</u>
<u>852</u>	<u>2795</u>
<u>853</u>	<u>2799</u>
<u>854</u>	<u>2802</u>
<u>855</u>	<u>2805</u>
<u>856</u>	<u>2808</u>
<u>857</u>	<u>2812</u>

Meters	Feet
<u>858</u>	<u>2815</u>
<u>859</u>	<u>2818</u>
<u>860</u>	<u>2822</u>
<u>861</u>	<u>2825</u>
<u>862</u>	<u>2828</u>
<u>863</u>	<u>2831</u>
<u>864</u>	<u>2835</u>
<u>865</u>	<u>2838</u>
<u>866</u>	<u>2841</u>
<u>867</u>	<u>2844</u>
<u>868</u>	<u>2848</u>
<u>869</u>	<u>2851</u>
<u>870</u>	<u>2854</u>
<u>871</u>	<u>2858</u>
<u>872</u>	<u>2861</u>
<u>873</u>	<u>2864</u>
<u>874</u>	<u>2867</u>
<u>875</u>	<u>2871</u>
<u>876</u>	<u>2874</u>
<u>877</u>	<u>2877</u>
<u>878</u>	<u>2881</u>
<u>879</u>	<u>2884</u>
<u>880</u>	<u>2887</u>
<u>881</u>	<u>2890</u>
<u>882</u>	<u>2894</u>
<u>883</u>	<u>2897</u>
<u>884</u>	<u>2900</u>
<u>885</u>	<u>2904</u>
<u>886</u>	<u>2907</u>
<u>887</u>	<u>2910</u>
<u>888</u>	<u>2913</u>
<u>889</u>	<u>2917</u>
<u>890</u>	<u>2920</u>
<u>891</u>	<u>2923</u>
<u>892</u>	<u>2927</u>
<u>893</u>	<u>2930</u>
<u>894</u>	<u>2933</u>
<u>895</u>	<u>2936</u>
<u>896</u>	<u>2940</u>
<u>897</u>	<u>2943</u>
<u>898</u>	<u>2946</u>
<u>899</u>	<u>2949</u>

Meters	Feet
<u>900</u>	<u>2953</u>
<u>901</u>	<u>2956</u>
<u>902</u>	<u>2959</u>
<u>903</u>	<u>2963</u>
<u>904</u>	<u>2966</u>
<u>905</u>	<u>2969</u>
<u>906</u>	<u>2972</u>
<u>907</u>	<u>2976</u>
<u>908</u>	<u>2979</u>
<u>909</u>	<u>2982</u>
<u>910</u>	<u>2986</u>
<u>911</u>	<u>2989</u>
<u>912</u>	<u>2992</u>
<u>913</u>	<u>2995</u>
<u>914</u>	<u>2999</u>
<u>915</u>	<u>3002</u>
<u>916</u>	<u>3005</u>
<u>917</u>	<u>3009</u>
<u>918</u>	<u>3012</u>
<u>919</u>	<u>3015</u>
<u>920</u>	<u>3018</u>
<u>921</u>	<u>3022</u>
<u>922</u>	<u>3025</u>
<u>923</u>	<u>3028</u>
<u>924</u>	<u>3031</u>
<u>925</u>	<u>3035</u>
<u>926</u>	<u>3038</u>
<u>927</u>	<u>3041</u>
<u>928</u>	<u>3045</u>
<u>929</u>	<u>3048</u>
<u>930</u>	<u>3051</u>
<u>931</u>	<u>3054</u>
<u>932</u>	<u>3058</u>
<u>933</u>	<u>3061</u>
<u>934</u>	<u>3064</u>
<u>935</u>	<u>3068</u>
<u>936</u>	<u>3071</u>
<u>937</u>	<u>3074</u>
<u>938</u>	<u>3077</u>
<u>939</u>	<u>3081</u>
<u>940</u>	<u>3084</u>
<u>941</u>	<u>3087</u>

Meters	Feet
<u>942</u>	<u>3091</u>
<u>943</u>	<u>3094</u>
<u>944</u>	<u>3097</u>
<u>945</u>	<u>3100</u>
<u>946</u>	<u>3104</u>
<u>947</u>	<u>3107</u>
<u>948</u>	<u>3110</u>
<u>949</u>	<u>3114</u>
<u>950</u>	<u>3117</u>
<u>951</u>	<u>3120</u>
<u>952</u>	<u>3123</u>
<u>953</u>	<u>3127</u>
<u>954</u>	<u>3130</u>
<u>955</u>	<u>3133</u>
<u>956</u>	<u>3136</u>
<u>957</u>	<u>3140</u>
<u>958</u>	<u>3143</u>
<u>959</u>	<u>3146</u>
<u>960</u>	<u>3150</u>
<u>961</u>	<u>3153</u>
<u>962</u>	<u>3156</u>
<u>963</u>	<u>3159</u>
<u>964</u>	<u>3163</u>
<u>965</u>	<u>3166</u>
<u>966</u>	<u>3169</u>
<u>967</u>	<u>3173</u>
<u>968</u>	<u>3176</u>
<u>969</u>	<u>3179</u>
<u>970</u>	<u>3182</u>
<u>971</u>	<u>3186</u>
<u>972</u>	<u>3189</u>
<u>973</u>	<u>3192</u>
<u>974</u>	<u>3196</u>
<u>975</u>	<u>3199</u>
<u>976</u>	<u>3202</u>
<u>977</u>	<u>3205</u>
<u>978</u>	<u>3209</u>
<u>979</u>	<u>3212</u>
<u>980</u>	<u>3215</u>
<u>981</u>	<u>3219</u>
<u>982</u>	<u>3222</u>
<u>983</u>	<u>3225</u>



Meters	Feet
<u>984</u>	<u>3228</u>
<u>985</u>	<u>3232</u>
<u>986</u>	<u>3235</u>
<u>987</u>	<u>3238</u>
<u>988</u>	<u>3241</u>
<u>989</u>	<u>3245</u>
<u>990</u>	<u>3248</u>
<u>991</u>	<u>3251</u>
<u>992</u>	<u>3255</u>
<u>993</u>	<u>3258</u>
<u>994</u>	<u>3261</u>
<u>995</u>	<u>3264</u>
<u>996</u>	<u>3268</u>
<u>997</u>	<u>3271</u>
<u>998</u>	<u>3274</u>
<u>999</u>	<u>3278</u>
<u>1000</u>	<u>3281</u>
<u>1001</u>	<u>3284</u>
<u>1002</u>	<u>3287</u>
<u>1003</u>	<u>3291</u>
<u>1004</u>	<u>3294</u>
<u>1005</u>	<u>3297</u>
<u>1006</u>	<u>3301</u>
<u>1007</u>	<u>3304</u>
<u>1008</u>	<u>3307</u>
<u>1009</u>	<u>3310</u>
<u>1010</u>	<u>3314</u>
<u>1011</u>	<u>3317</u>
<u>1012</u>	<u>3320</u>
<u>1013</u>	<u>3323</u>
<u>1014</u>	<u>3327</u>
<u>1015</u>	<u>3330</u>
<u>1016</u>	<u>3333</u>
<u>1017</u>	<u>3337</u>
<u>1018</u>	<u>3340</u>
<u>1019</u>	<u>3343</u>
<u>1020</u>	<u>3346</u>
<u>1021</u>	<u>3350</u>
<u>1022</u>	<u>3353</u>
<u>1023</u>	<u>3356</u>
<u>1024</u>	<u>3360</u>
<u>1025</u>	<u>3363</u>

Meters	Feet
<u>1026</u>	<u>3366</u>
<u>1027</u>	<u>3369</u>
<u>1028</u>	<u>3373</u>
<u>1029</u>	<u>3376</u>
<u>1030</u>	<u>3379</u>
<u>1031</u>	<u>3383</u>
<u>1032</u>	<u>3386</u>
<u>1033</u>	<u>3389</u>
<u>1034</u>	<u>3392</u>
<u>1035</u>	<u>3396</u>
<u>1036</u>	<u>3399</u>
<u>1037</u>	<u>3402</u>
<u>1038</u>	<u>3406</u>
<u>1039</u>	<u>3409</u>
<u>1040</u>	<u>3412</u>
<u>1041</u>	<u>3415</u>
<u>1042</u>	<u>3419</u>
<u>1043</u>	<u>3422</u>
<u>1044</u>	<u>3425</u>
<u>1045</u>	<u>3428</u>
<u>1046</u>	<u>3432</u>
<u>1047</u>	<u>3435</u>
<u>1048</u>	<u>3438</u>
<u>1049</u>	<u>3442</u>
<u>1050</u>	<u>3445</u>
<u>1051</u>	<u>3448</u>
<u>1052</u>	<u>3451</u>
<u>1053</u>	<u>3455</u>
<u>1054</u>	<u>3458</u>
<u>1055</u>	<u>3461</u>
<u>1056</u>	<u>3465</u>
<u>1057</u>	<u>3468</u>
<u>1058</u>	<u>3471</u>
<u>1059</u>	<u>3474</u>
<u>1060</u>	<u>3478</u>
<u>1061</u>	<u>3481</u>
<u>1062</u>	<u>3484</u>
<u>1063</u>	<u>3488</u>
<u>1064</u>	<u>3491</u>
<u>1065</u>	<u>3494</u>
<u>1066</u>	<u>3497</u>
<u>1067</u>	<u>3501</u>

Meters	Feet
<u>1068</u>	<u>3504</u>
<u>1069</u>	<u>3507</u>
<u>1070</u>	<u>3510</u>
<u>1071</u>	<u>3514</u>
<u>1072</u>	<u>3517</u>
<u>1073</u>	<u>3520</u>
<u>1074</u>	<u>3524</u>
<u>1075</u>	<u>3527</u>
<u>1076</u>	<u>3530</u>
<u>1077</u>	<u>3533</u>
<u>1078</u>	<u>3537</u>
<u>1079</u>	<u>3540</u>
<u>1080</u>	<u>3543</u>
<u>1081</u>	<u>3547</u>
<u>1082</u>	<u>3550</u>
<u>1083</u>	<u>3553</u>
<u>1084</u>	<u>3556</u>
<u>1085</u>	<u>3560</u>
<u>1086</u>	<u>3563</u>
<u>1087</u>	<u>3566</u>
<u>1088</u>	<u>3570</u>
<u>1089</u>	<u>3573</u>
<u>1090</u>	<u>3576</u>
<u>1091</u>	<u>3579</u>
<u>1092</u>	<u>3583</u>
<u>1093</u>	<u>3586</u>
<u>1094</u>	<u>3589</u>
<u>1095</u>	<u>3593</u>
<u>1096</u>	<u>3596</u>
<u>1097</u>	<u>3599</u>
<u>1098</u>	<u>3602</u>
<u>1099</u>	<u>3606</u>
<u>1100</u>	<u>3609</u>
<u>1101</u>	<u>3612</u>
<u>1102</u>	<u>3615</u>
<u>1103</u>	<u>3619</u>
<u>1104</u>	<u>3622</u>
<u>1105</u>	<u>3625</u>
<u>1106</u>	<u>3629</u>
<u>1107</u>	<u>3632</u>
<u>1108</u>	<u>3635</u>
<u>1109</u>	<u>3638</u>

Meters	Feet
<u>1110</u>	<u>3642</u>
<u>1111</u>	<u>3645</u>
<u>1112</u>	<u>3648</u>
<u>1113</u>	<u>3652</u>
<u>1114</u>	<u>3655</u>
<u>1115</u>	<u>3658</u>
<u>1116</u>	<u>3661</u>
<u>1117</u>	<u>3665</u>
<u>1118</u>	<u>3668</u>
<u>1119</u>	<u>3671</u>
<u>1120</u>	<u>3675</u>
<u>1121</u>	<u>3678</u>
<u>1122</u>	<u>3681</u>
<u>1123</u>	<u>3684</u>
<u>1124</u>	<u>3688</u>
<u>1125</u>	<u>3691</u>
<u>1126</u>	<u>3694</u>
<u>1127</u>	<u>3698</u>
<u>1128</u>	<u>3701</u>
<u>1129</u>	<u>3704</u>
<u>1130</u>	<u>3707</u>
<u>1131</u>	<u>3711</u>
<u>1132</u>	<u>3714</u>
<u>1133</u>	<u>3717</u>
<u>1134</u>	<u>3720</u>
<u>1135</u>	<u>3724</u>
<u>1136</u>	<u>3727</u>
<u>1137</u>	<u>3730</u>
<u>1138</u>	<u>3734</u>
<u>1139</u>	<u>3737</u>
<u>1140</u>	<u>3740</u>
<u>1141</u>	<u>3743</u>
<u>1142</u>	<u>3747</u>
<u>1143</u>	<u>3750</u>
<u>1144</u>	<u>3753</u>
<u>1145</u>	<u>3757</u>
<u>1146</u>	<u>3760</u>
<u>1147</u>	<u>3763</u>
<u>1148</u>	<u>3766</u>
<u>1149</u>	<u>3770</u>
<u>1150</u>	<u>3773</u>
<u>1151</u>	<u>3776</u>

<u>Meters</u>	<u>Feet</u>
<u><b>1152</b></u>	<u>3780</u>
<u><b>1153</b></u>	<u>3783</u>
<u><b>1154</b></u>	<u>3786</u>
<u><b>1155</b></u>	<u>3789</u>
<u><b>1156</b></u>	<u>3793</u>
<u><b>1157</b></u>	<u>3796</u>
<u><b>1158</b></u>	<u>3799</u>
<u><b>1159</b></u>	<u>3802</u>
<u><b>1160</b></u>	<u>3806</u>
<u><b>1161</b></u>	<u>3809</u>
<u><b>1162</b></u>	<u>3812</u>
<u><b>1163</b></u>	<u>3816</u>
<u><b>1164</b></u>	<u>3819</u>
<u><b>1165</b></u>	<u>3822</u>
<u><b>1166</b></u>	<u>3825</u>
<u><b>1167</b></u>	<u>3829</u>
<u><b>1168</b></u>	<u>3832</u>
<u><b>1169</b></u>	<u>3835</u>

<u>Meters</u>	<u>Feet</u>
<u><b>1170</b></u>	<u>3839</u>
<u><b>1171</b></u>	<u>3842</u>
<u><b>1172</b></u>	<u>3845</u>
<u><b>1173</b></u>	<u>3848</u>
<u><b>1174</b></u>	<u>3852</u>
<u><b>1175</b></u>	<u>3855</u>
<u><b>1176</b></u>	<u>3858</u>
<u><b>1177</b></u>	<u>3862</u>
<u><b>1178</b></u>	<u>3865</u>
<u><b>1179</b></u>	<u>3868</u>
<u><b>1180</b></u>	<u>387</u>
<u><b>1181</b></u>	<u>3875</u>
<u><b>1182</b></u>	<u>3878</u>
<u><b>1183</b></u>	<u>3881</u>
<u><b>1184</b></u>	<u>3885</u>
<u><b>1185</b></u>	<u>3888</u>
<u><b>1186</b></u>	<u>3891</u>
<u><b>1187</b></u>	<u>3894</u>

<u>Meters</u>	<u>Feet</u>
<u><b>1188</b></u>	<u>3898</u>
<u><b>1189</b></u>	<u>3901</u>
<u><b>1190</b></u>	<u>3904</u>
<u><b>1191</b></u>	<u>3907</u>
<u><b>1192</b></u>	<u>3911</u>
<u><b>1193</b></u>	<u>3914</u>
<u><b>1194</b></u>	<u>3917</u>
<u><b>1195</b></u>	<u>3921</u>
<u><b>1196</b></u>	<u>3924</u>
<u><b>1197</b></u>	<u>3927</u>
<u><b>1198</b></u>	<u>3930</u>
<u><b>1199</b></u>	<u>3934</u>
<u><b>1200</b></u>	<u>3937</u>
<u><b>1201</b></u>	<u>3940</u>
<u><b>1202</b></u>	<u>3944</u>
<u><b>1203</b></u>	<u>3947</u>
<u><b>1204</b></u>	<u>3950</u>
<u><b>1205</b></u>	<u>3953</u>

<u>Meters</u>	<u>Feet</u>
<u><b>1206</b></u>	<u>3957</u>
<u><b>1207</b></u>	<u>3960</u>
<u><b>1208</b></u>	<u>3963</u>
<u><b>1209</b></u>	<u>3967</u>
<u><b>1210</b></u>	<u>3970</u>
<u><b>1211</b></u>	<u>3973</u>
<u><b>1212</b></u>	<u>3976</u>
<u><b>1213</b></u>	<u>3980</u>
<u><b>1214</b></u>	<u>3983</u>
<u><b>1215</b></u>	<u>3986</u>
<u><b>1216</b></u>	<u>3990</u>
<u><b>1217</b></u>	<u>3993</u>
<u><b>1218</b></u>	<u>3996</u>
<u><b>1219</b></u>	<u>3999</u>
<u><b>1220</b></u>	<u>4003</u>

## Appendix B: Oxygen Titration Protocol

This protocol<sup>1</sup> may be used in advance of the six-minute walk test to determine the amount of supplemental oxygen needed so that the candidate can complete the six-minute walk test without titrating up supplemental oxygen during the test. The oxygen titration test should be conducted on a flat standard 30-meter course with cones at each end and wall markings at 1-meter intervals as advised by the European Respiratory Society/American Thoracic Society for the six-minute walk test.<sup>2</sup>

1. Prior to the start of the test, record resting heart rate and room air SpO<sub>2</sub>.
2. Supply continuous supplemental oxygen as needed to ensure a resting SpO<sub>2</sub> > 88%. If candidate's baseline SpO<sub>2</sub> is less than 88%, supply continuous supplemental oxygen as needed to ensure a resting SpO<sub>2</sub> equal to or greater than the candidate's baseline.
3. Stabilize the candidate on any supplemental oxygen for 5 minutes prior to the start of the test to establish resting supplemental oxygen demands. Enter this value on the Lung Candidate record in OPTN Waiting List as the amount of supplemental oxygen required at rest.
4. Instruct the candidate to walk at "a vigorous pace or one that they can maintain for at least 6 minutes."
5. Station the respiratory technician performing the test near the halfway point on the course to continuously monitor the candidate without interfering with the walking pace. The technician walks directly with the candidate only if it is necessary as a safety precaution against falls.
6. Measure time via a stopwatch. The testing time starts when the candidate begins to walk.
7. Record heart rate, SpO<sub>2</sub>, and any supplemental oxygen flow (L/min) every minute, or sooner with any significant clinical change.
8. The minimum duration of testing is 6 minutes.
  - a. If no desaturation occurs (SpO<sub>2</sub> remains > 88%) for the duration of testing, the test concludes at 6 minutes.
  - b. If desaturation occurs during testing (SpO<sub>2</sub> ≤ 88%), stop the candidate and timer and deliver supplemental oxygen through a nasal cannula at an increase of 2 L/min greater than the current oxygen amount until SpO<sub>2</sub> is ≥ 90%.
    - i. Allow the candidate to stabilize at this level for 2 minutes.
    - ii. Restart the timer and instruct the candidate to resume walking.
    - iii. Repeat this process as necessary until at least 6 minutes of walking has occurred and the oxygen amount has remained unchanged for 3 minutes, at which point the test is terminated.
    - iv. The test is also terminated if:
      1. The candidate is unable to maintain SpO<sub>2</sub> > 88% at 25 L/min for 3 minutes.
      2. The candidate experiences chest pain or lightheadedness or requests to stop the test for any reason.
9. The final amount of supplemental oxygen from the oxygen titration test must be documented in the candidate's medical record. Provide that amount of supplemental oxygen to the candidate when completing the six-minute walk test for lung allocation.

<sup>1</sup> Adopted with modifications from: Coral X. Giovacchini, Anne M. Mathews, Brian R. Lawlor, and Neil R. MacIntyre, "Titrating Oxygen Requirements During Exercise: Evaluation of a Standardized Single Walk Test Protocol," *CHEST* 153 no. 4 (2018): 922-928, <https://doi.org/10.1016/j.chest.2017.11.009>.

<sup>2</sup> Anne E. Holland, Martijn A. Spruit, Thierry Troosters, et al., "An official European Respiratory Society/American Thoracic Society technical standard: field walking tests in chronic respiratory disease," *European Respiratory Journal* 44 (2014): 1428-1446, DOI: 10.1183/09031936.00150314.