

- For each triangle, determine the missing information.
- Copy problems to a separate piece of paper, and show all work.
- Your answer should be accurate to 3 significant digits.
- Answers are posted at <http://weh.maritime.edu/mechanics>

1.  $a = 30$     $\alpha = 56.31^\circ$   
 $b = 20$     $\beta = 33.69^\circ$   
 $c = 36.06$     $\gamma = 90^\circ$

2.  $a = 58.48$     $\alpha = 61.95^\circ$   
 $b = 31.15$     $\beta = 28.05^\circ$   
 $c = 66.26$     $\gamma = 90^\circ$

3.  $a = 77.06$     $\alpha = 61.95^\circ$   
 $b = 41.05$     $\beta = 28.05^\circ$   
 $c = 87.31$     $\gamma = 90^\circ$

4.  $a = 69.31$     $\alpha = 69.77^\circ$   
 $b = 25.54$     $\beta = 20.23^\circ$   
 $c = 73.86$     $\gamma = 90^\circ$

5.  $a = 19.85$     $\alpha = 19.62^\circ$   
 $b = 55.69$     $\beta = 70.38^\circ$   
 $c = 59.12$     $\gamma = 90^\circ$

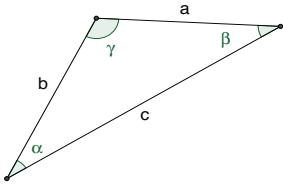
6.  $a = 24.64$     $\alpha = 28.92^\circ$   
 $b = 44.6$     $\beta = 61.08^\circ$   
 $c = 50.96$     $\gamma = 90^\circ$

7.  $a = 24.22$     $\alpha = 28.92^\circ$   
 $b = 43.82$     $\beta = 61.08^\circ$   
 $c = 50.07$     $\gamma = 90^\circ$

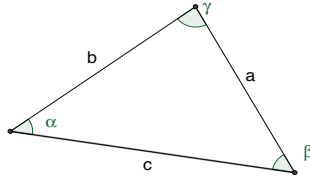
8.  $a = 26.79$     $\alpha = 30.98^\circ$   
 $b = 44.64$     $\beta = 59.02^\circ$   
 $c = 52.06$     $\gamma = 90^\circ$

9.  $a = 21.64$     $\alpha = 30.98^\circ$   
 $b = 36.04$     $\beta = 59.02^\circ$   
 $c = 42.04$     $\gamma = 90^\circ$

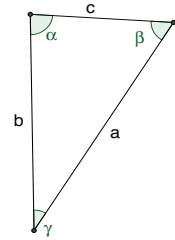
10.  $a = 36.84$   $\alpha = 31.65^\circ$   
 $b = 39.44$   $\beta = 34.18^\circ$   
 $c = 64.05$   $\gamma = 114.17^\circ$



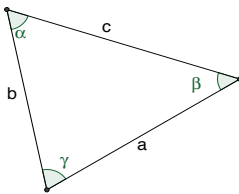
11.  $a = 62.12$   $\alpha = 45.5^\circ$   
 $b = 68.98$   $\beta = 52.37^\circ$   
 $c = 86.28$   $\gamma = 82.13^\circ$



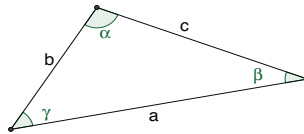
12.  $a = 90.22$   $\alpha = 85.52^\circ$   
 $b = 80.01$   $\beta = 62.15^\circ$   
 $c = 48.4$   $\gamma = 32.33^\circ$



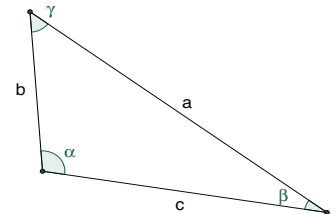
13.  $a = 64.31$   $\alpha = 60.44^\circ$   
 $b = 56.92$   $\beta = 50.35^\circ$   
 $c = 69.11$   $\gamma = 69.21^\circ$



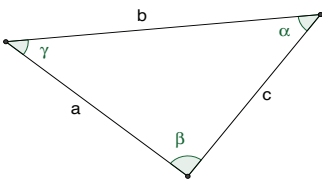
14.  $a = 85.07$   $\alpha = 102.31^\circ$   
 $b = 44.84$   $\beta = 30.99^\circ$   
 $c = 63.37$   $\gamma = 46.69^\circ$



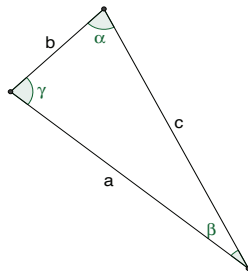
15.  $a = 110.76$   $\alpha = 103.14^\circ$   
 $b = 52.55$   $\beta = 27.52^\circ$   
 $c = 86.28$   $\gamma = 49.34^\circ$



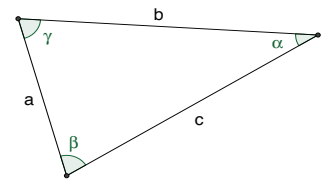
16.  $a = 46.81$   $\alpha = 47.79^\circ$   
 $b = 63.14$   $\beta = 87.73^\circ$   
 $c = 44.27$   $\gamma = 44.47^\circ$



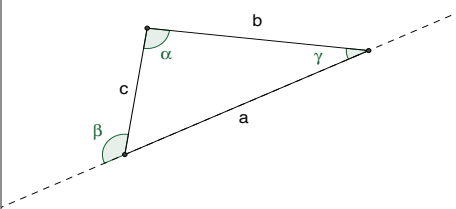
17.  $a = 61.3$   $\alpha = 72.72^\circ$   
 $b = 26.03$   $\beta = 23.92^\circ$   
 $c = 63.77$   $\gamma = 83.36^\circ$



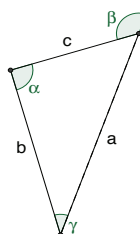
18.  $a = 35.75$   $\alpha = 34.98^\circ$   
 $b = 59.99$   $\beta = 74.16^\circ$   
 $c = 58.91$   $\gamma = 70.87^\circ$



19.  $a = 90.82$   $\alpha = 92.82^\circ$   
 $b = 75.18$   $\beta = 124.24^\circ$   
 $c = 47.4$   $\gamma = 31.41^\circ$



20.  $a = 79.01$   $\alpha = 91.95^\circ$   
 $b = 63.17$   $\beta = 126.96^\circ$   
 $c = 45.35$   $\gamma = 35.01^\circ$



21.  $a = 71.15$   $\alpha = 56.69^\circ$   
 $b = 60.38$   $\beta = 134.83^\circ$   
 $c = 83.31$   $\gamma = 78.13^\circ$

