

Mission Points Worksheet

NAR/Team # _____

General Guidelines ~ these apply to all Mission elements

Least Points

Mid-Range Points

Most Points

|  | <ul style="list-style-type: none"> * Vague emulation of the function * Unchallenging function to emulate * Poor documentation of the function * Poor operation or outcome | <p>Award points in this range unless there are specific reasons to award fewer or more points</p> | <ul style="list-style-type: none"> * Accurate emulation of the function * Challenging to realistically emulate * All aspects are well-documented * Successful operation or outcome | Version 2010.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|---|--|--|--------------|---|----|----|----|----|-----|-----|--|--|----|----|----|----|----|----|----|----|----|----|-----|-----|----|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|--|--|--|--|--|--|--|--|----|----|----|----|----|----|--|--|--|----|----|----|----|----|----|--|--|--|----|----|----|----|----|----|--|--|--|---|--|
| | Category-Specific Guidelines/Examples | | | | Flight 1 / 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Staging 15-30 points per staging event 50 points maximum all stages | ~ 15 points | ~ 20-25 points | ~ 30 points | Stage 2 ___/___ Stage 3 ___/___ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jettisoned Assemblies 5-20 points per assembly 50 points maximum | ~ 5 points | ~ 10-15 points | ~ 20 points | 1 ___/___ 2 ___/___ 3 etc ___/___ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Payload Operation 5-25 points 50 points maximum | ~ 5 points | ~ 15 points | ~ 25 points | 1 ___/___ 2 ___/___ 3 etc ___/___ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gliding Flight 15-50 points per gliding part 50 points max all gliding parts | ~ 15 points | ~ 35 points | ~ 50 points | 1 ___/___ 2 ___/___ 3 etc ___/___ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deployment Operation 5-20 points 20 points maximum | ~ 5 points | ~ 15 points | ~ 20 points | 1 ___/___ 2 ___/___ 3 etc ___/___ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Active Guidance 10-50 points 50 points maximum | ~ 10 points | ~ 25 points | ~ 50 points | ___/___ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Minor Effects/Functions 5 points per documented function | 5 points each | | | 1 ___/___ 2 etc ___/___ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Clustering & Air-Start 90 points maximum all stages Primary Motor = Within two impulse categories of largest motor in a stage Secondary Motor = More than two impulse categories smaller than the largest motor in a stage | <p>For each stage with multiple motors:</p> <table border="1" style="font-size: small;"> <thead> <tr> <th rowspan="2"></th> <th colspan="11"># of Secondary Motors in the Stage</th> </tr> <tr> <th>0S</th><th>1S</th><th>2S</th><th>3S</th><th>4S</th><th>5S</th><th>6S</th><th>7S</th><th>8S</th><th>9S</th><th>10S</th><th>11S</th> </tr> </thead> <tbody> <tr> <td>1P</td><td>0</td><td>6</td><td>9</td><td>12</td><td>15</td><td>19</td><td>23</td><td>27</td><td>31</td><td>35</td><td>39</td><td>40</td> </tr> <tr> <td>2P</td><td>16</td><td>19</td><td>22</td><td>25</td><td>28</td><td>31</td><td>34</td><td>37</td><td>40</td><td>40</td><td>40</td><td>40</td> </tr> <tr> <td>3P</td><td>20</td><td>23</td><td>26</td><td>29</td><td>32</td><td>35</td><td>38</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td> </tr> <tr> <td>4P</td><td>24</td><td>27</td><td>30</td><td>33</td><td>36</td><td>39</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td> </tr> <tr> <td>5P</td><td>28</td><td>31</td><td>34</td><td>37</td><td>40</td><td colspan="6" rowspan="4" style="font-size: x-small;">Includes all ignited motors in the stage (e.g. cluster, spin, retro, air-started)</td><td colspan="3"></td> </tr> <tr> <td>6P</td><td>32</td><td>31</td><td>34</td><td>37</td><td>40</td><td colspan="3"></td> </tr> <tr> <td>7P</td><td>36</td><td>39</td><td>40</td><td>40</td><td>40</td><td colspan="3"></td> </tr> <tr> <td>8P</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td><td colspan="3"></td> </tr> </tbody> </table> <p>(Motors beyond the "scale" number at a location are not counted)</p> | | | # of Secondary Motors in the Stage | | | | | | | | | | | 0S | 1S | 2S | 3S | 4S | 5S | 6S | 7S | 8S | 9S | 10S | 11S | 1P | 0 | 6 | 9 | 12 | 15 | 19 | 23 | 27 | 31 | 35 | 39 | 40 | 2P | 16 | 19 | 22 | 25 | 28 | 31 | 34 | 37 | 40 | 40 | 40 | 40 | 3P | 20 | 23 | 26 | 29 | 32 | 35 | 38 | 40 | 40 | 40 | 40 | 40 | 4P | 24 | 27 | 30 | 33 | 36 | 39 | 40 | 40 | 40 | 40 | 40 | 40 | 5P | 28 | 31 | 34 | 37 | 40 | Includes all ignited motors in the stage (e.g. cluster, spin, retro, air-started) | | | | | | | | | 6P | 32 | 31 | 34 | 37 | 40 | | | | 7P | 36 | 39 | 40 | 40 | 40 | | | | 8P | 40 | 40 | 40 | 40 | 40 | | | | <p>Points Awarded for Cluster Realism: Starting from 10 points, deduct for deviations from the "scale" positions of the motors. 0 points if positions can't be determined from the substantiation data.</p> <p>Points Awarded for Air-Start: 10 points for each instance of air-start ignition of motor(s), including a clustered upper stage. Deduct up to 5 point for out-of-sequence ignition.</p> | Ignited Motors: ___/___ (60 max) Cluster Realism: ___/___ (10 max) Air-Start: ___/___ (20 max) |
| | # of Secondary Motors in the Stage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0S | 1S | 2S | 3S | 4S | 5S | 6S | 7S | 8S | 9S | 10S | 11S | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1P | 0 | 6 | 9 | 12 | 15 | 19 | 23 | 27 | 31 | 35 | 39 | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2P | 16 | 19 | 22 | 25 | 28 | 31 | 34 | 37 | 40 | 40 | 40 | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3P | 20 | 23 | 26 | 29 | 32 | 35 | 38 | 40 | 40 | 40 | 40 | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4P | 24 | 27 | 30 | 33 | 36 | 39 | 40 | 40 | 40 | 40 | 40 | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5P | 28 | 31 | 34 | 37 | 40 | Includes all ignited motors in the stage (e.g. cluster, spin, retro, air-started) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6P | 32 | 31 | 34 | 37 | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7P | 36 | 39 | 40 | 40 | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8P | 40 | 40 | 40 | 40 | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Additional Notes: <ul style="list-style-type: none"> * Failure of a function (e.g. a cluster motor misfire) doesn't result in deduction of Mission points, though it may impact the General Flight score. * All of the attempted Mission elements must be documented in the scale substantiation data. Exceptions: Staging (if the prototype is obviously a multistage vehicle); Rocket spin (if the prototype is an unguided sounding rocket); Gliding flight (if the prototype is a winged vehicle). * Deployment Operation is a change in the external configuration of the airframe by parts which remain attached to the airframe (e.g. landing gear deployment, drag flap deployment, scale spring-loaded fins). Also includes a sequenced recovery system (e.g. drogue chute/main chute). | | | | ___/___ Mission Points Total (200 points max) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |