FIRST In Michigan District Championship Predictions 2022

FRC Events The Blue Alliance FRC Locks(slow) Slots at event:160

Cutoff value

| Points | Probability |
|--------|-------------|
| 59 | 0.0035 |
| 60 | 0.0145 |
| 61 | 0.0405 |
| 62 | 0.113 |
| 63 | 0.206 |
| 64 | 0.252 |
| 65 | 0.2115 |
| 66 | 0.107 |
| 67 | 0.037 |
| 68 | 0.0115 |
| 69 | 0.003 |
| 70 | 0.0005 |

Team Probabilities

| Probability rank | IIIaniiy | Team number | Nickname | | Extra points needed to have 50% chance of | |
|---------------------|----------|----------------|----------|--|---|--|
|---------------------|----------|----------------|----------|--|---|--|

| | championship | | | | making district championship | making district championship |
|----|--------------|-------------|----------------------|---|---------------------------------|---------------------------------|
| 1 | 1.000 | <u>857</u> | Superior Roboworks | 0 | 0 | 0 |
| 2 | 1.000 | <u>6637</u> | BetaWolves | 0 | 0 | 0 |
| 3 | 1.000 | <u>5460</u> | Strike Zone | 0 | 0 | 0 |
| 4 | 1.000 | <u>4381</u> | Twisted Devils | 0 | 0 | 0 |
| 5 | 1.000 | <u>4003</u> | TriSonics | 0 | 0 | 0 |
| 6 | 1.000 | <u>3668</u> | TroBots | 0 | 0 | 0 |
| 7 | 1.000 | <u>3538</u> | RoboJackets | 0 | 0 | 0 |
| 8 | 1.000 | <u>3534</u> | House of Cards | 0 | 0 | 0 |
| 9 | 1.000 | <u>33</u> | Killer Bees | 0 | 0 | 0 |
| 10 | 1.000 | 2767 | Stryke Force | 0 | 0 | 0 |
| 11 | 1.000 | 27 | Team RUSH | 0 | 0 | 0 |
| 12 | 1.000 | 2337 | EngiNERDs | 0 | 0 | 0 |
| 13 | 1.000 | <u>1701</u> | RoboCubs | 0 | 0 | 0 |
| 14 | 1.000 | <u>910</u> | The Foley Freeze | 0 | 0 | 0 |
| 15 | 1.000 | <u>5577</u> | Kinematic Wolves | 0 | 0 | 0 |
| 16 | 1.000 | <u>5509</u> | Like a Boss | 0 | 0 | 0 |
| 17 | 1.000 | <u>5216</u> | E-Ville Empire | 0 | 0 | 0 |
| 18 | 1.000 | <u>5114</u> | Titanium Tigers 5114 | 0 | 0 | 0 |
| 19 | 1.000 | <u>4776</u> | S.C.O.T.S. Bots | 0 | 0 | 0 |
| 20 | 1.000 | <u>3618</u> | Petoskey Paladins | 0 | 0 | 0 |
| 21 | 1.000 | <u>2832</u> | The Livonia Warriors | 0 | 0 | 0 |
| 22 | 1.000 | <u>201</u> | The FEDS | 0 | 0 | 0 |
| 23 | 1.000 | <u>1718</u> | The Fighting Pi | 0 | 0 | 0 |
| 24 | 1.000 | <u>1023</u> | Bedford Express | 0 | 0 | 0 |
| 25 | 1.000 | 7244 | Huskies Robotics | 0 | 0 | 0 |
| 26 | 1.000 | <u>7191</u> | ABT Gators | 0 | 0 | 0 |
| 27 | 1.000 | <u>7160</u> | Ludington O-Bots | 0 | 0 | 0 |

| 28 | 1.000 | 6112 | Cyberstangs | 0 | 0 | 0 |
|----|-------|-------------|------------------------------------|---|----|----|
| 29 | 1.000 | <u>5660</u> | Symmetrical Chaos | 0 | 0 | 0 |
| 30 | 1.000 | <u>5152</u> | Alotobots | 0 | 0 | 0 |
| 31 | 1.000 | 5090 | TorqueNados | 0 | 0 | 0 |
| 32 | 1.000 | 3603 | Cyber Coyotes | 0 | 0 | 0 |
| 33 | 1.000 | <u>3572</u> | Wavelength | 0 | 0 | 0 |
| 34 | 1.000 | 3414 | Hackbots | 0 | 0 | 0 |
| 35 | 1.000 | <u>3357</u> | COMETS | 0 | 0 | 0 |
| 36 | 1.000 | <u>2075</u> | Enigma Robotics | 0 | 0 | 0 |
| 37 | 1.000 | <u>1506</u> | Metal Muscle | 0 | 0 | 0 |
| 38 | 1.000 | <u>5675</u> | WiredCats | 0 | 0 | 1 |
| 39 | 1.000 | <u>7054</u> | SC Sailors | 0 | 0 | 0 |
| 40 | 0.999 | <u>70</u> | More Martians | 0 | 1 | 4 |
| 41 | 0.992 | 4967 | That ONE Team- OurNextEngineers | 0 | 3 | 6 |
| 42 | 0.992 | <u>494</u> | Martians | 0 | 3 | 6 |
| 43 | 0.992 | <u>1918</u> | NC GEARS | 0 | 3 | 6 |
| 44 | 0.981 | <u>5084</u> | Team FridgeBot | 1 | 4 | 7 |
| 45 | 0.981 | <u>3546</u> | BucnGears | 1 | 4 | 7 |
| 46 | 0.964 | <u>2054</u> | Tech Vikes | 2 | 5 | 8 |
| 47 | 0.942 | <u>503</u> | Frog Force | 3 | 6 | 9 |
| 48 | 0.942 | <u>3539</u> | Byting Bulldogs | 3 | 6 | 9 |
| 49 | 0.915 | 1684 | The Chimeras | 4 | 7 | 10 |
| 50 | 0.885 | <u>818</u> | The Steel Armadillos | 5 | 8 | 11 |
| 51 | 0.853 | <u>4362</u> | CSPA Gems | 6 | 9 | 12 |
| 52 | 0.853 | <u>2834</u> | Bionic Black Hawks | 6 | 9 | 12 |
| 53 | 0.782 | <u>67</u> | The HOT Team | 8 | 11 | 14 |
| 54 | 0.782 | 3602 | RoboMos | 8 | 11 | 14 |
| 55 | 0.782 | 1502 | Technical Difficulties | 8 | 11 | 14 |

| 56 | 0.721 | <u>85</u> | B.O.B. (Built on Brains) | 10 | 13 | 16 |
|----|-------|-----------|-----------------------------|----|----|----|
| 57 | 0.721 | 8352 | Code Gold | 10 | 13 | 16 |
| 58 | 0.721 | 5535 | Bionic Bison | 10 | 13 | 16 |
| 59 | 0.684 | 4325 | RoboRangers | 12 | 15 | 18 |
| 60 | 0.670 | 5498 | The Wired Devils | 13 | 16 | 19 |
| 61 | 0.670 | 4237 | Team Lance-A-Bot | 13 | 16 | 19 |
| 62 | 0.670 | 3175 | Knight Vision | 13 | 16 | 19 |
| 63 | 0.658 | 3322 | Skyline Robotics | 14 | 17 | 20 |
| 64 | 0.645 | 8612 | Squires Robotics | 15 | 18 | 21 |
| 65 | 0.645 | 7211 | Hollywood | 15 | 18 | 21 |
| 66 | 0.645 | 4216 | Blue Ops Robotics | 15 | 18 | 21 |
| 67 | 0.645 | 3620 | Average Joes | 15 | 18 | 21 |
| 68 | 0.632 | 8517 | E-Ville Bounty Hunters | 16 | 19 | 22 |
| 69 | 0.632 | 3641 | The Flying Toasters | 16 | 19 | 22 |
| 70 | 0.629 | 8899 | Eagles | 51 | 54 | 57 |
| 71 | 0.629 | 8895 | Clinton High School | 51 | 54 | 57 |
| 72 | 0.629 | 8873 | Mt Pleasant Oilers | 51 | 54 | 57 |
| 73 | 0.616 | 5166 | Fabricators | 17 | 20 | 23 |
| 74 | 0.616 | 4327 | Q Branch | 17 | 20 | 23 |
| 75 | 0.597 | 862 | Lightning Robotics | 18 | 21 | 24 |
| 76 | 0.597 | 5046 | Jacked Up Jackets | 18 | 21 | 24 |
| 77 | 0.597 | 4391 | BraveBots | 18 | 21 | 24 |
| 78 | 0.597 | 3875 | Red Storm Robotics | 18 | 21 | 24 |
| 79 | 0.575 | 7660 | The Byting Irish | 19 | 22 | 25 |
| 80 | 0.575 | 5926 | Da MOOse | 19 | 22 | 25 |
| 81 | 0.575 | 4453 | The Red Hot Chili Bots | 19 | 22 | 25 |

| 82 | 0.575 | <u>3537</u> | Delta Force | 19 | 22 | 25 |
|-----|-------|-------------|--------------------------|----|----|----|
| 83 | 0.575 | 3452 | GreengineerZ | 19 | 22 | 25 |
| 84 | 0.575 | 1188 | Ravens | 19 | 22 | 25 |
| 85 | 0.549 | 8425 | Happy Rock Brave Bots | 20 | 23 | 26 |
| 86 | 0.549 | 6122 | Potential Energy | 20 | 23 | 26 |
| 87 | 0.549 | 6090 | Wayland Wildcats | 20 | 23 | 26 |
| 88 | 0.549 | 2586 | Copper Bots | 20 | 23 | 26 |
| 89 | 0.522 | <u>6085</u> | Green Devil Bots | 21 | 24 | 27 |
| 90 | 0.522 | 6057 | Thunderbots | 21 | 24 | 27 |
| 91 | 0.522 | <u>5714</u> | F.R.O.G.S | 21 | 24 | 27 |
| 92 | 0.522 | <u>5538</u> | Vikingbots | 21 | 24 | 27 |
| 93 | 0.522 | <u>5478</u> | Pershing Doughbots | 21 | 24 | 27 |
| 94 | 0.522 | 2960 | Automation Nation | 21 | 24 | 27 |
| 95 | 0.494 | 5712 | Hemlocks Gray Matter | 22 | 25 | 28 |
| 96 | 0.494 | 5708 | Zebrotics | 22 | 25 | 28 |
| 97 | 0.494 | 5505 | V2 - Volts Squared | 22 | 25 | 28 |
| 98 | 0.494 | 5150 | Hybrid Hornets | 22 | 25 | 28 |
| 99 | 0.470 | 8611 | Patriots 2022 | 56 | 59 | 62 |
| 100 | 0.470 | 8608 | Alpha Bots | 56 | 59 | 62 |
| 101 | 0.466 | 8728 | Argonauts | 23 | 26 | 29 |
| 102 | 0.466 | 5547 | The Talons | 23 | 26 | 29 |
| 103 | 0.466 | 4779 | RoboSapiens | 23 | 26 | 29 |
| 104 | 0.466 | 3667 | Mecanum Knights | 23 | 26 | 29 |
| 105 | 0.466 | 2673 | Tenacious Technicians | 23 | 26 | 29 |
| 106 | 0.466 | 2405 | Techno Trojans | 23 | 26 | 29 |
| 107 | 0.466 | 1711 | RAPTORS | 23 | 26 | 29 |
| 108 | 0.440 | 3688 | Norsemen | 24 | 27 | 30 |

| 109 | 0.416 | 894 | The POWER CHARGERS | 25 | 28 | 31 |
|-----|-------|-------------|---------------------------------|----|----|----|
| 110 | 0.416 | 6344 | Yale Jiggawattz | 25 | 28 | 31 |
| 111 | 0.416 | 6081 | Digital Dislocators | 25 | 28 | 31 |
| 112 | 0.416 | 5603 | Rise of the Warrior Bots | 25 | 28 | 31 |
| 113 | 0.416 | 4130 | The Blue Devils | 25 | 28 | 31 |
| 114 | 0.416 | 314 | The Megatron Oracles | 25 | 28 | 31 |
| 115 | 0.416 | 3096 | The Village Bulldogs | 25 | 28 | 31 |
| 116 | 0.395 | 245 | Adambots | 26 | 29 | 32 |
| 117 | 0.395 | 226 | Hammerheads | 26 | 29 | 32 |
| 118 | 0.395 | 1596 | The Instigators | 26 | 29 | 32 |
| 119 | 0.395 | 123 | Team - Cosmos | 26 | 29 | 32 |
| 120 | 0.378 | 858 | Demons | 27 | 30 | 33 |
| 121 | 0.378 | 7782 | Wolverine Circuit Breakers | 27 | 30 | 33 |
| 122 | 0.378 | 4994 | Kingston Robo-Cards | 27 | 30 | 33 |
| 123 | 0.378 | 322 | Team F.I.R.E. | 27 | 30 | 33 |
| 124 | 0.362 | 7658 | MagiTech | 28 | 31 | 34 |
| 125 | 0.362 | <u>573</u> | Mech Warriors | 28 | 31 | 34 |
| 126 | 0.362 | 5282 | Railroader Robotics | 28 | 31 | 34 |
| 127 | 0.362 | 4377 | Boyne City Blaze | 28 | 31 | 34 |
| 128 | 0.347 | 7202 | Cyber Orioles | 29 | 32 | 35 |
| 129 | 0.347 | 6088 | Stephenson Eagles | 29 | 32 | 35 |
| 130 | 0.347 | <u>5756</u> | RECin Crew | 29 | 32 | 35 |
| 131 | 0.347 | <u>5436</u> | Cyber Cats | 29 | 32 | 35 |
| 132 | 0.342 | 8424 | Tractor Technicians Next Gen | 61 | 64 | 67 |
| 133 | 0.342 | 8382 | Flivver Robotics | 61 | 64 | 67 |

| 134 | 0.342 | <u>8374</u> | Bongo Bots | 61 | 64 | 67 |
|-----|-------|-------------|--|----|----|----|
| 135 | 0.342 | 8373 | The Flying Octopi: 8373 R.R.T. | 61 | 64 | 67 |
| 136 | 0.342 | 8368 | Red Eye Robotics | 61 | 64 | 67 |
| 137 | 0.342 | 8342 | m(stee) squared | 61 | 64 | 67 |
| 138 | 0.342 | 8332 | Alternate Reality | 61 | 64 | 67 |
| 139 | 0.342 | 8314 | The Roar | 61 | 64 | 67 |
| 140 | 0.342 | 8300 | Lumen Christi Titans | 61 | 64 | 67 |
| 141 | 0.342 | 8297 | WIHI Robo Wolves | 61 | 64 | 67 |
| 142 | 0.342 | 8286 | Robotnic | 61 | 64 | 67 |
| 143 | 0.342 | 8280 | K9.0 Robotics | 61 | 64 | 67 |
| 144 | 0.342 | 8124 | BearBots | 61 | 64 | 67 |
| 145 | 0.342 | 7861 | The Wildkatz - RoboKatz | 61 | 64 | 67 |
| 146 | 0.342 | 7855 | Bone Yard Bro-bots | 61 | 64 | 67 |
| 147 | 0.342 | 7772 | The Lucky 7s | 61 | 64 | 67 |
| 148 | 0.342 | 7768 | The Iron Hill Automatons | 61 | 64 | 67 |
| 149 | 0.342 | 7716 | JLW Formula 01 | 61 | 64 | 67 |
| 150 | 0.342 | 7713 | The Sons & Daughters of Ivaldi, Norse-code | 61 | 64 | 67 |
| 151 | 0.342 | 7665 | GL Gadgets | 61 | 64 | 67 |
| 152 | 0.342 | 7656 | MC Hammers | 61 | 64 | 67 |
| 153 | 0.342 | 7250 | OsCODEa 0w 5 | 61 | 64 | 67 |
| 154 | 0.342 | 7248 | Tactical Hams | 61 | 64 | 67 |
| 155 | 0.342 | 7221 | JHS Viking Robotics | 61 | 64 | 67 |
| 156 | 0.342 | 7209 | Titanium Trojans (Homer Robotics Club) | 61 | 64 | 67 |

| 157 | 0.342 | 7188 | SaddleBots | 61 | 64 | 67 |
|-----|-------|-------------|----------------------------------|----|----|----|
| 158 | 0.342 | 7166 | Red Thunder Robotics | 61 | 64 | 67 |
| 159 | 0.342 | 7155 | The Robotic Rangers | 61 | 64 | 67 |
| 160 | 0.342 | 7147 | Falcons Senior Robo Team | 61 | 64 | 67 |
| 161 | 0.342 | 7144 | NexTech Hydra | 61 | 64 | 67 |
| 162 | 0.342 | 7109 | Clare Chaos Theory | 61 | 64 | 67 |
| 163 | 0.342 | 7020 | IM ROBOT | 61 | 64 | 67 |
| 164 | 0.342 | <u>6963</u> | Blood Sweat and Gears | 61 | 64 | 67 |
| 165 | 0.342 | <u>6914</u> | Retro5ive | 61 | 64 | 67 |
| 166 | 0.342 | <u>6877</u> | Mechanical Mustangs | 61 | 64 | 67 |
| 167 | 0.342 | <u>6753</u> | CBA RoboKings | 61 | 64 | 67 |
| 168 | 0.342 | 6642 | Harrison Stingers of Steel | 61 | 64 | 67 |
| 169 | 0.342 | 6618 | WARHBOTS | 61 | 64 | 67 |
| 170 | 0.342 | <u>6615</u> | Belle Voxel - Bots | 61 | 64 | 67 |
| 171 | 0.342 | <u>66</u> | Grizzly Robotics | 61 | 64 | 67 |
| 172 | 0.342 | <u>6591</u> | Panther Powered Robotics 6591 | 61 | 64 | 67 |
| 173 | 0.342 | <u>6580</u> | Positive Charge | 61 | 64 | 67 |
| 174 | 0.342 | <u>6556</u> | Spartan Robotics | 61 | 64 | 67 |
| 175 | 0.342 | <u>6538</u> | Linc-Bots | 61 | 64 | 67 |
| 176 | 0.342 | <u>6533</u> | BeaverTech | 61 | 64 | 67 |
| 177 | 0.342 | <u>6528</u> | Terror Bytes | 61 | 64 | 67 |
| 178 | 0.342 | <u>6113</u> | M.A.R.C. 1 | 61 | 64 | 67 |
| 179 | 0.342 | <u>6098</u> | bIrobot | 61 | 64 | 67 |
| 180 | 0.342 | <u>6093</u> | Unplugged | 61 | 64 | 67 |
| 181 | 0.342 | 6092 | Q-Bots | 61 | 64 | 67 |

| 182 | 0.342 | <u>6089</u> | Cyber Cougars | 61 | 64 | 67 |
|-----|-------|-------------|------------------------------|----|----|----|
| 183 | 0.342 | 6087 | Cybertronic Lancers | 61 | 64 | 67 |
| 184 | 0.342 | <u>6078</u> | RoboRams | 61 | 64 | 67 |
| 185 | 0.342 | 6077 | Wiking Kujon | 61 | 64 | 67 |
| 186 | 0.342 | <u>6033</u> | Gadget Agents (HS) | 61 | 64 | 67 |
| 187 | 0.342 | <u>5676</u> | The H.E.R.O.E.S | 61 | 64 | 67 |
| 188 | 0.342 | <u>5562</u> | CTRL+Shift+qq | 61 | 64 | 67 |
| 189 | 0.342 | <u>5555</u> | Spartans | 61 | 64 | 67 |
| 190 | 0.342 | <u>5534</u> | Onaway Onabots | 61 | 64 | 67 |
| 191 | 0.342 | 5530 | The Greenhills Lawnmowers | 61 | 64 | 67 |
| 192 | 0.342 | 5523 | Redneck RoboWarriors | 61 | 64 | 67 |
| 193 | 0.342 | 5504 | The Loose Connections | 61 | 64 | 67 |
| 194 | 0.342 | 5239 | Harper Woods Pioneers | 61 | 64 | 67 |
| 195 | 0.342 | 5231 | Radical Jays | 61 | 64 | 67 |
| 196 | 0.342 | 5229 | Heritage Hawkbots | 61 | 64 | 67 |
| 197 | 0.342 | 5224 | Panther Power | 61 | 64 | 67 |
| 198 | 0.342 | 5214 | The Mighty CavBots | 61 | 64 | 67 |
| 199 | 0.342 | <u>5205</u> | FullMetal-Jackets | 61 | 64 | 67 |
| 200 | 0.342 | 5203 | Volatile Chaos Inhibitors | 61 | 64 | 67 |
| 201 | 0.342 | 5066 | Singularity | 61 | 64 | 67 |
| 202 | 0.342 | 5050 | Cow Town Robotics | 61 | 64 | 67 |
| 203 | 0.342 | 5048 | Spartronics | 61 | 64 | 67 |
| 204 | 0.342 | 4838 | Outlaws | 61 | 64 | 67 |
| 205 | 0.342 | 469 | Las Guerrillas | 61 | 64 | 67 |
| 206 | 0.342 | 4568 | Robot Commander | 61 | 64 | 67 |

| 207 | 0.342 | <u>4395</u> | Dundee Vi-Borgs | 61 | 64 | 67 |
|-----|-------|-------------|---------------------------------|----|----|----|
| 208 | 0.342 | 4384 | Benzene Bots | 61 | 64 | 67 |
| 209 | 0.342 | 3773 | Arrowhead Robotics | 61 | 64 | 67 |
| 210 | 0.342 | 3658 | Robo - Beavers | 61 | 64 | 67 |
| 211 | 0.342 | 3656 | Dreadbots | 61 | 64 | 67 |
| 212 | 0.342 | 3655 | Tractor Technicians | 61 | 64 | 67 |
| 213 | 0.342 | 3604 | Goon Squad | 61 | 64 | 67 |
| 214 | 0.342 | 3536 | Electro Eagles | 61 | 64 | 67 |
| 215 | 0.342 | 313 | The Bionic Zebras | 61 | 64 | 67 |
| 216 | 0.342 | 302 | The Dragons | 61 | 64 | 67 |
| 217 | 0.342 | 280 | TnT | 61 | 64 | 67 |
| 218 | 0.342 | 2620 | Titans | 61 | 64 | 67 |
| 219 | 0.342 | 2611 | Jacktown Vectors | 61 | 64 | 67 |
| 220 | 0.342 | 2246 | The Army of Sum | 61 | 64 | 67 |
| 221 | 0.342 | 217 | ThunderChickens | 61 | 64 | 67 |
| 222 | 0.342 | 1528 | MTR (Monroe Trojan Robotics) | 61 | 64 | 67 |
| 223 | 0.342 | 1250 | Gator-Bots | 61 | 64 | 67 |
| 224 | 0.342 | 1189 | The Gearheads | 61 | 64 | 67 |
| 225 | 0.342 | 107 | Team R.O.B.O.T.I.C.S. | 61 | 64 | 67 |
| 226 | 0.342 | 1025 | IMPI Robotics | 61 | 64 | 67 |
| 227 | 0.333 | 7491 | Cyber Soldiers | 30 | 33 | 36 |
| 228 | 0.333 | 7145 | Robocanes | 30 | 33 | 36 |
| 229 | 0.333 | 6532 | TechnoPaths | 30 | 33 | 36 |
| 230 | 0.333 | 5235 | Gears of Fortune | 30 | 33 | 36 |
| 231 | 0.333 | 3767 | Titans | 30 | 33 | 36 |
| 232 | 0.333 | 240 | TEMPEST | 30 | 33 | 36 |
| 233 | 0.319 | 68 | Truck Town Thunder | 31 | 34 | 37 |

| 234 | 0.319 | 5462 | 2PawR (2PawRobotics) | 31 | 34 | 37 |
|-----|-------|-------------|---|----|----|----|
| 235 | 0.305 | 74 | Team CHAOS | 32 | 35 | 38 |
| 236 | 0.305 | 7226 | Error 404 | 32 | 35 | 38 |
| 237 | 0.305 | <u>6861</u> | The Tyros Team | 32 | 35 | 38 |
| 238 | 0.305 | <u>6566</u> | Battering Rams | 32 | 35 | 38 |
| 239 | 0.305 | <u>6152</u> | Robo-Falcons | 32 | 35 | 38 |
| 240 | 0.305 | <u>5501</u> | Bobcats | 32 | 35 | 38 |
| 241 | 0.305 | <u>5314</u> | Ice Bots | 32 | 35 | 38 |
| 242 | 0.305 | <u>5260</u> | Owosso Operating System | 32 | 35 | 38 |
| 243 | 0.305 | <u>5086</u> | Cadillac Connectors | 32 | 35 | 38 |
| 244 | 0.305 | 1322 | Genesee Robotics Area Youth Team (GRAYT) | 32 | 35 | 38 |
| 245 | 0.290 | 7501 | Golden Gears | 33 | 36 | 39 |
| 246 | 0.290 | 7056 | The F.A.S.T. Team - Fowlerville Area Scientific Technicians | 33 | 36 | 39 |
| 247 | 0.290 | 2959 | Robotarians | 33 | 36 | 39 |
| 248 | 0.274 | 8426 | Automated Amphibians | 34 | 37 | 40 |
| 249 | 0.274 | 8115 | Platinum Peacocks | 34 | 37 | 40 |
| 250 | 0.274 | 7762 | AutoPilots | 34 | 37 | 40 |
| 251 | 0.274 | 6610 | Robot Roll Call | 34 | 37 | 40 |
| 252 | 0.274 | <u>5695</u> | Heavy Duty Eagles | 34 | 37 | 40 |
| 253 | 0.274 | 5567 | Code Red Robotics | 34 | 37 | 40 |
| 254 | 0.274 | 5424 | Rogue Robots | 34 | 37 | 40 |
| 255 | 0.274 | 3707 | Brighton TechnoDogs | 34 | 37 | 40 |
| 256 | 0.274 | 308 | Monsters | 34 | 37 | 40 |

| 257 | 0.274 | 288 | The RoboDawgs | 34 | 37 | 40 |
|-----|-------|-------------|-----------------------------|----|----|----|
| 258 | 0.258 | 7865 | Hope of Detroit Robotics | 35 | 38 | 41 |
| 259 | 0.258 | <u>5843</u> | Flurb | 35 | 38 | 41 |
| 260 | 0.258 | 5623 | Robotic Rams | 35 | 38 | 41 |
| 261 | 0.258 | <u>51</u> | The Wings of Fire | 35 | 38 | 41 |
| 262 | 0.258 | 247 | Da Bears | 35 | 38 | 41 |
| 263 | 0.258 | 1076 | Pi Hi Samurai | 35 | 38 | 41 |
| 264 | 0.242 | 8826 | Parkway Eagles | 36 | 39 | 42 |
| 265 | 0.242 | 7553 | OSTC - SWEET BOTS | 36 | 39 | 42 |
| 266 | 0.242 | 7195 | Twin River Robotics | 36 | 39 | 42 |
| 267 | 0.242 | 7174 | Charger Robotics | 36 | 39 | 42 |
| 268 | 0.242 | 5247 | Red Devil Robotics | 36 | 39 | 42 |
| 269 | 0.242 | 3770 | BlitzCreek | 36 | 39 | 42 |
| 270 | 0.242 | 2851 | Crevolution | 36 | 39 | 42 |
| 271 | 0.242 | 1 | The Juggernauts | 36 | 39 | 42 |
| 272 | 0.226 | 8832 | AutoDawgs | 37 | 40 | 43 |
| 273 | 0.226 | 8767 | Dark Horse Robotics | 37 | 40 | 43 |
| 274 | 0.226 | <u>6616</u> | Mechanical Pumas | 37 | 40 | 43 |
| 275 | 0.226 | <u>6569</u> | Gladiators | 37 | 40 | 43 |
| 276 | 0.226 | 6120 | CyberStangs | 37 | 40 | 43 |
| 277 | 0.226 | <u>5907</u> | CC Shambots | 37 | 40 | 43 |
| 278 | 0.226 | 5612 | RoboRaptors | 37 | 40 | 43 |
| 279 | 0.226 | 5610 | Turbulence | 37 | 40 | 43 |
| 280 | 0.226 | 5230 | The Resistance | 37 | 40 | 43 |
| 281 | 0.226 | 5053 | Lakers | 37 | 40 | 43 |
| 282 | 0.226 | 244 | RoboDawgs 3D | 37 | 40 | 43 |
| 283 | 0.226 | 1481 | The Riveters | 37 | 40 | 43 |
| 284 | 0.210 | 7234 | Lee Robotics | 38 | 41 | 44 |

| 285 | 0.210 | 7225 | Mechatronic Mustangs | 38 | 41 | 44 |
|-----|-------|-------------|-------------------------------------|----|----|----|
| 286 | 0.210 | 7197 | Mountie MegaBots | 38 | 41 | 44 |
| 287 | 0.210 | 7154 | TheROK | 38 | 41 | 44 |
| 288 | 0.210 | 6097 | Botcats | 38 | 41 | 44 |
| 289 | 0.210 | 6067 | Underdogs | 38 | 41 | 44 |
| 290 | 0.210 | <u>5517</u> | The Engineers on Fire | 38 | 41 | 44 |
| 291 | 0.210 | 2137 | The Oxford RoboCats | 38 | 41 | 44 |
| 292 | 0.196 | 7814 | River Valley Gearheads | 39 | 42 | 45 |
| 293 | 0.196 | 6588 | Counter-Torque Robotics | 39 | 42 | 45 |
| 294 | 0.196 | 6570 | Whiteford Bobcats | 39 | 42 | 45 |
| 295 | 0.196 | 6121 | RoboVikes | 39 | 42 | 45 |
| 296 | 0.196 | 6100 | MS Mobots | 39 | 42 | 45 |
| 297 | 0.196 | 5980 | East Grand Rapids Robotics | 39 | 42 | 45 |
| 298 | 0.196 | 3632 | D-Techs | 39 | 42 | 45 |
| 299 | 0.196 | 3302 | TurboTrojans | 39 | 42 | 45 |
| 300 | 0.196 | 2771 | Code Red Robotics the Stray Dogs | 39 | 42 | 45 |
| 301 | 0.184 | 830 | The RatPack | 40 | 43 | 46 |
| 302 | 0.184 | 7769 | The CREW | 40 | 43 | 46 |
| 303 | 0.184 | 7220 | Steel Falcons | 40 | 43 | 46 |
| 304 | 0.184 | <u>6096</u> | UPSM Cobras | 40 | 43 | 46 |
| 305 | 0.184 | 4680 | AzTech Eagles | 40 | 43 | 46 |
| 306 | 0.184 | 3542 | S.P.E.E.D | 40 | 43 | 46 |
| 307 | 0.184 | 2224 | RoboPhoenix | 40 | 43 | 46 |
| 308 | 0.173 | 8854 | Pandamonium | 41 | 44 | 47 |
| 309 | 0.173 | 7289 | Blue Eagles | 41 | 44 | 47 |

| 310 | 0.173 | 6002 | ZooBOTix | 41 | 44 | 47 |
|-----|-------|-------------|---------------------------|----|----|----|
| 311 | 0.173 | 5674 | The Gearhounds | 41 | 44 | 47 |
| 312 | 0.173 | 216 | More RoboDawgs | 41 | 44 | 47 |
| 313 | 0.165 | 8519 | Bubos Parliament | 42 | 45 | 48 |
| 314 | 0.165 | <u>4988</u> | Yooper Troopers | 42 | 45 | 48 |
| 315 | 0.165 | 3619 | Blackhawks | 42 | 45 | 48 |
| 316 | 0.165 | 3568 | RoboEagles | 42 | 45 | 48 |
| 317 | 0.165 | 2619 | The Charge | 42 | 45 | 48 |
| 318 | 0.157 | 7192 | Blue Thunderneers | 43 | 46 | 49 |
| 319 | 0.157 | <u>5559</u> | Gear Grinders | 43 | 46 | 49 |
| 320 | 0.157 | 4405 | The Atoms Family | 43 | 46 | 49 |
| 321 | 0.149 | 8423 | Next Express | 44 | 47 | 50 |
| 322 | 0.149 | 2604 | Metal and Soul | 44 | 47 | 50 |
| 323 | 0.149 | 1940 | Tech Tigers | 44 | 47 | 50 |
| 324 | 0.149 | 141 | WOBOT | 44 | 47 | 50 |
| 325 | 0.142 | <u>6071</u> | The Aluminators | 45 | 48 | 51 |
| 326 | 0.142 | <u>5193</u> | Pantheon | 45 | 48 | 51 |
| 327 | 0.142 | 5167 | Vi-Bots | 45 | 48 | 51 |
| 328 | 0.142 | 453 | Rockem Sockem Robotics | 45 | 48 | 51 |
| 329 | 0.136 | 7856 | UPAD NASA Fusion | 46 | 49 | 52 |
| 330 | 0.136 | 7790 | Baywatch Robotics | 46 | 49 | 52 |
| 331 | 0.136 | 5860 | Full Metal Muskrats | 46 | 49 | 52 |
| 332 | 0.131 | 815 | Advanced Power | 47 | 50 | 53 |
| 333 | 0.131 | <u>5901</u> | Cougar Pack | 47 | 50 | 53 |
| 334 | 0.126 | 7810 | Eagle Robotics | 48 | 51 | 54 |
| 335 | 0.126 | 6102 | Mustangs | 48 | 51 | 54 |
| 336 | 0.126 | 6101 | Strange Quarks | 48 | 51 | 54 |
| 337 | 0.126 | <u>6079</u> | JET SET | 48 | 51 | 54 |

| 338 | 0.126 | 5704 | AUTOGOATS | 48 | 51 | 54 |
|-----|-------|-------------|-----------------------------|----|----|----|
| 339 | 0.126 | 5532 | The G.O.A.T.S | 48 | 51 | 54 |
| 340 | 0.126 | 5234 | MarauderBots | 48 | 51 | 54 |
| 341 | 0.126 | 2591 | RedTails | 48 | 51 | 54 |
| 342 | 0.121 | 5531 | Orange Crush | 49 | 52 | 55 |
| 343 | 0.121 | 5197 | DCP @ NW | 49 | 52 | 55 |
| 344 | 0.121 | 4827 | Minerbotics | 49 | 52 | 55 |
| 345 | 0.121 | 4737 | Atomigators | 49 | 52 | 55 |
| 346 | 0.121 | 4715 | Big Bay de Noc Bear Bots | 49 | 52 | 55 |
| 347 | 0.121 | 4375 | Westend Gearbusters | 49 | 52 | 55 |
| 348 | 0.116 | 94 | The Ninetyfouriors | 50 | 53 | 56 |
| 349 | 0.116 | 8427 | Robo Ravens | 50 | 53 | 56 |
| 350 | 0.116 | 8193 | The Steel Stingers | 50 | 53 | 56 |
| 351 | 0.116 | 7598 | SCA Constellations | 50 | 53 | 56 |
| 352 | 0.116 | 7247 | Error 404 | 50 | 53 | 56 |
| 353 | 0.116 | 7232 | Pharaohs | 50 | 53 | 56 |
| 354 | 0.116 | <u>6631</u> | Rocket Robotics | 50 | 53 | 56 |
| 355 | 0.116 | <u>6548</u> | Perry RAMBOTS | 50 | 53 | 56 |
| 356 | 0.116 | <u>6345</u> | Nimrod Nation | 50 | 53 | 56 |
| 357 | 0.116 | <u>6073</u> | Cav-Bots | 50 | 53 | 56 |
| 358 | 0.116 | <u>5486</u> | Robotic Turmoil | 50 | 53 | 56 |
| 359 | 0.116 | <u>548</u> | Robostangs | 50 | 53 | 56 |
| 360 | 0.116 | 5448 | CCA RoboCougars | 50 | 53 | 56 |
| 361 | 0.116 | 5110 | Robo Herd | 50 | 53 | 56 |
| 362 | 0.116 | 4983 | IronBots | 50 | 53 | 56 |
| 363 | 0.116 | 4835 | Junkyard Dawgs | 50 | 53 | 56 |
| 364 | 0.116 | 4392 | The Deceivers | 50 | 53 | 56 |
| 365 | 0.116 | 3458 | Code Blue | 50 | 53 | 56 |

| 366 | 0.116 | <u>3234</u> | Red Arrows | 50 | 53 | 56 |
|-----|-------|-------------|--------------------------------|----|----|----|
| 367 | 0.111 | 8385 | Metal Madness | 51 | 54 | 57 |
| 368 | 0.111 | <u>8285</u> | Ravenna Bulldogs Robotics | 51 | 54 | 57 |
| 369 | 0.111 | 8179 | Robo Falcons | 51 | 54 | 57 |
| 370 | 0.111 | 7823 | Double Negative | 51 | 54 | 57 |
| 371 | 0.111 | 7794 | Marion Eagle Engineers | 51 | 54 | 57 |
| 372 | 0.111 | 7256 | Irish Robotics | 51 | 54 | 57 |
| 373 | 0.111 | 7224 | RoboDrakens | 51 | 54 | 57 |
| 374 | 0.111 | 7203 | 21st Century Cyber Bearcats | 51 | 54 | 57 |
| 375 | 0.111 | 6114 | Hamilton CyberHawks | 51 | 54 | 57 |
| 376 | 0.111 | <u>5256</u> | Atomics | 51 | 54 | 57 |
| 377 | 0.111 | 4854 | Trobots | 51 | 54 | 57 |
| 378 | 0.111 | 4337 | Red Devil robotics | 51 | 54 | 57 |
| 379 | 0.106 | 8397 | Mission Control Robotics | 52 | 55 | 58 |
| 380 | 0.106 | 7811 | Flamin Hot Tigers | 52 | 55 | 58 |
| 381 | 0.106 | 7178 | Yeti | 52 | 55 | 58 |
| 382 | 0.106 | <u>6099</u> | Knight Riders | 52 | 55 | 58 |
| 383 | 0.106 | <u>6091</u> | Eagle 1 | 52 | 55 | 58 |
| 384 | 0.106 | <u>5709</u> | Rudyard Nerf Herders | 52 | 55 | 58 |
| 385 | 0.106 | <u>5525</u> | Alcona Tool Cats | 52 | 55 | 58 |
| 386 | 0.106 | 5225 | The Shambotz | 52 | 55 | 58 |
| 387 | 0.106 | <u>5183</u> | Devil Bots | 52 | 55 | 58 |
| 388 | 0.106 | <u>4851</u> | JungleBots | 52 | 55 | 58 |
| 389 | 0.100 | 8041 | Lake City Ultrabots | 53 | 56 | 59 |
| 390 | 0.100 | 7826 | Marquette Robotics | 53 | 56 | 59 |

| 391 | 0.100 | 7692 | Beach Bums | 53 | 56 | 59 |
|-----|-------|-------------|-----------------------------------|----|----|----|
| 392 | 0.100 | 6020 | John Glenn Robotics | 53 | 56 | 59 |
| 393 | 0.100 | <u>5982</u> | Circuits of Destruction | 53 | 56 | 59 |
| 394 | 0.100 | <u>5706</u> | Tahquamenon Phenomenon | 53 | 56 | 59 |
| 395 | 0.100 | 5263 | Robo-Bucs | 53 | 56 | 59 |
| 396 | 0.100 | 5182 | Chieftainators | 53 | 56 | 59 |
| 397 | 0.100 | 5144 | LISD TECHnicians | 53 | 56 | 59 |
| 398 | 0.100 | 5067 | Steiner Steel Storm | 53 | 56 | 59 |
| 399 | 0.100 | 5065 | Knights | 53 | 56 | 59 |
| 400 | 0.100 | 4810 | I AM Robot | 53 | 56 | 59 |
| 401 | 0.100 | 4390 | ATA Coregears | 53 | 56 | 59 |
| 402 | 0.093 | 8362 | Cyber Tigers West | 54 | 57 | 60 |
| 403 | 0.093 | 8126 | Control Freaks | 54 | 57 | 60 |
| 404 | 0.093 | 7818 | Williamston High School | 54 | 57 | 60 |
| 405 | 0.093 | 7791 | Lincoln Abes | 54 | 57 | 60 |
| 406 | 0.093 | 7784 | Vassar Voltage | 54 | 57 | 60 |
| 407 | 0.093 | 6005 | Cardinaltronics | 54 | 57 | 60 |
| 408 | 0.093 | 4998 | TESLA | 54 | 57 | 60 |
| 409 | 0.093 | 4961 | Shock and Awe-sum | 54 | 57 | 60 |
| 410 | 0.093 | 1504 | Desperate Penguins | 54 | 57 | 60 |
| 411 | 0.093 | 1254 | Tech Force | 54 | 57 | 60 |
| 412 | 0.086 | 8364 | Rising Stars Academy - Nebulas | 55 | 58 | 61 |
| 413 | 0.086 | 7597 | Rambler Robotics | 55 | 58 | 61 |
| 414 | 0.086 | 6190 | Cybernetic Crusaders | 55 | 58 | 61 |
| 415 | 0.086 | 6150 | BlueBotics | 55 | 58 | 61 |

| 416 | 0.086 | <u>5927</u> | Globetrotters | 55 | 58 | 61 |
|-----|-------|-------------|--------------------------------|----|----|----|
| 417 | 0.086 | <u>5915</u> | Mercy Midnight Storm | 55 | 58 | 61 |
| 418 | 0.086 | <u>5878</u> | The Great Lakers | 55 | 58 | 61 |
| 419 | 0.086 | <u>5470</u> | The Cowpunchers | 55 | 58 | 61 |
| 420 | 0.086 | <u>3098</u> | Waterford Robotics | 55 | 58 | 61 |
| 421 | 0.079 | 8623 | Michigan FC | 56 | 59 | 62 |
| 422 | 0.079 | <u>8361</u> | Toro Loco | 56 | 59 | 62 |
| 423 | 0.079 | 7911 | Belding Scrapcat Robotics | 56 | 59 | 62 |
| 424 | 0.079 | 6428 | STEMINEERS | 56 | 59 | 62 |
| 425 | 0.079 | 5702 | Robotowatomi | 56 | 59 | 62 |
| 426 | 0.079 | 5642 | Mumford Mechanical Mustangs | 56 | 59 | 62 |
| 427 | 0.079 | <u>5533</u> | Electric Horse Power | 56 | 59 | 62 |
| 428 | 0.072 | 7254 | Knowmads | 57 | 60 | 63 |
| 429 | 0.072 | 7210 | RoboJackets | 57 | 60 | 63 |
| 430 | 0.072 | 7196 | Tech Tigers | 57 | 60 | 63 |
| 431 | 0.072 | 6581 | Ellies Big Happy Family | 57 | 60 | 63 |
| 432 | 0.072 | <u>6558</u> | Aluminum Sting | 57 | 60 | 63 |
| 433 | 0.072 | <u>6552</u> | RoboCats | 57 | 60 | 63 |
| 434 | 0.072 | <u>6029</u> | Railbots | 57 | 60 | 63 |
| 435 | 0.072 | <u>5255</u> | Robotic Tigers | 57 | 60 | 63 |
| 436 | 0.053 | 7208 | CMA Navigators | 61 | 64 | 67 |
| 437 | 0.053 | 7156 | Metal Heads | 61 | 64 | 67 |
| 438 | 0.053 | 5215 | Steagles 5215 | 61 | 64 | 67 |
| 439 | 0.053 | 5213 | St. Ignace SHIELD | 61 | 64 | 67 |
| 440 | 0.053 | <u>4398</u> | Imprimis Deo | 61 | 64 | 67 |

| 441 | 0.053 | <u>4382</u> | Team Trobot | 61 | 64 | 67 |
|-----|-------|-------------|------------------------------------|----|----|----|
| 442 | 0.002 | <u>5056</u> | MegaHurtz Robotics | 2 | 5 | 8 |
| 443 | 0.000 | <u>904</u> | D Cubed | 15 | 18 | 21 |
| 444 | 0.000 | 8830 | Denby Tars Robotics Team | 51 | 54 | 57 |
| 445 | 0.000 | 8774 | REST Robotics | 30 | 33 | 36 |
| 446 | 0.000 | <u>8379</u> | WSA Panthers | 61 | 64 | 67 |
| 447 | 0.000 | 8377 | MLHS Mavericks | 61 | 64 | 67 |
| 448 | 0.000 | <u>8299</u> | Techno Falcons | 61 | 64 | 67 |
| 449 | 0.000 | 8268 | Ashley Bears | 61 | 64 | 67 |
| 450 | 0.000 | 7854 | MTCPS Bathers | 61 | 64 | 67 |
| 451 | 0.000 | 7827 | Yooper Robotics | 61 | 64 | 67 |
| 452 | 0.000 | 7809 | Valhalla Nation | 61 | 64 | 67 |
| 453 | 0.000 | 7689 | WMC Robotics | 61 | 64 | 67 |
| 454 | 0.000 | 7602 | Spartronics | 37 | 40 | 43 |
| 455 | 0.000 | 7495 | SHAbotics | 61 | 64 | 67 |
| 456 | 0.000 | <u>6561</u> | Omecha Wolf Pack | 49 | 52 | 55 |
| 457 | 0.000 | 6128 | M.O.T.O.R (More Than Our Robot) | 14 | 17 | 20 |
| 458 | 0.000 | 6066 | Rambler Robotics | 61 | 64 | 67 |
| 459 | 0.000 | 6043 | Tesla Tigers | 61 | 64 | 67 |
| 460 | 0.000 | <u>5697</u> | Bearcats | 47 | 50 | 53 |
| 461 | 0.000 | 5641 | Byron Robotics | 17 | 20 | 23 |
| 462 | 0.000 | 5619 | RoboJags | 24 | 27 | 30 |
| 463 | 0.000 | <u>5561</u> | Raider Robotics | 11 | 14 | 17 |
| 464 | 0.000 | 5527 | Cyber Phoenix | 61 | 64 | 67 |
| 465 | 0.000 | 5467 | RoboTractors | 26 | 29 | 32 |
| 466 | 0.000 | 5238 | Falconators | 61 | 64 | 67 |
| 467 | 0.000 | 5217 | Robocats | 35 | 38 | 41 |

| 468 | 0.000 | <u>5162</u> | The Big Red Theory | 45 | 48 | 51 |
|-----|-------|-------------|--------------------|----|----|----|
| 469 | 0.000 | <u>4970</u> | ICE Cubed | 61 | 64 | 67 |
| 470 | 0.000 | <u>4956</u> | RoboSharks | 13 | 16 | 19 |
| 471 | 0.000 | <u>4855</u> | Ramageddon | 5 | 8 | 11 |
| 472 | 0.000 | <u>4815</u> | ELECTROPANTHERS | 61 | 64 | 67 |
| 473 | 0.000 | <u>4758</u> | RoboBlazers | 37 | 40 | 43 |
| 474 | 0.000 | 4004 | M.A.R.S. Rovers | 16 | 19 | 22 |
| 475 | 0.000 | 2145 | HAZMATs | 23 | 26 | 29 |
| 476 | 0.000 | 2048 | The Pink Panthers | 4 | 7 | 10 |

Cutoff value - extended

The cutoff values, along with how likely a team at that value is to miss advancing. For example: a line that said (50,.25) would correspond to the probability that team above 50 get in, teams below 50 do not, and 75% of teams ending up with exactly 50 would qualify for the district championship.

| Points | Probability |
|------------------|-------------|
| (59,0.142857) | 0.0005 |
| (59,0.2) | 0.0005 |
| (59,0.44444) | 0.0005 |
| (59,0.5) | 0.0005 |
| (59,0.6) | 0.0005 |
| (59,0.8) | 0.0005 |
| (59,0.909091) | 0.0005 |
| (60,1.23124e-13) | 0.0005 |
| (60,1.47771e-13) | 0.0005 |
| (60,0.2) | 0.0005 |
| (60,0.25) | 0.0005 |
| (60,0.333333) | 0.001 |
| (60,0.333333) | 0.0005 |

| (60,0.375) | 0.0005 |
|------------------|--------|
| (60,0.4) | 0.0015 |
| (60,0.428571) | 0.0005 |
| (60,0.44444) | 0.0005 |
| (60,0.5) | 0.0005 |
| (60,0.5) | 0.0005 |
| (60,0.6) | 0.0005 |
| (60,0.625) | 0.0005 |
| (60,0.666667) | 0.0005 |
| (60,0.75) | 0.0005 |
| (60,0.75) | 0.0015 |
| (60,0.833333) | 0.0015 |
| (60,0.857143) | 0.001 |
| (60,0.875) | 0.0005 |
| (60,0.9) | 0.0005 |
| (61,9.23706e-14) | 0.0005 |
| (61,1.47771e-13) | 0.0005 |
| (61,1.84741e-13) | 0.0005 |
| (61,2.46358e-13) | 0.0015 |
| (61,3.69482e-13) | 0.002 |
| (61,0.0909091) | 0.0005 |
| (61,0.11111) | 0.0005 |
| (61,0.125) | 0.0005 |
| (61,0.25) | 0.0015 |
| (61,0.285714) | 0.0005 |
| (61,0.333333) | 0.0005 |
| (61,0.333333) | 0.002 |
| (61,0.333333) | 0.0005 |
| (61,0.4) | 0.001 |

| (61,0.428571) | 0.0015 |
|------------------|--------|
| (61,0.5) | 0.001 |
| (61,0.5) | 0.0005 |
| (61,0.5) | 0.001 |
| (61,0.5) | 0.0005 |
| (61,0.555556) | 0.001 |
| (61,0.571429) | 0.0015 |
| (61,0.6) | 0.002 |
| (61,0.625) | 0.001 |
| (61,0.666667) | 0.001 |
| (61,0.666667) | 0.0005 |
| (61,0.666667) | 0.001 |
| (61,0.7) | 0.0005 |
| (61,0.714286) | 0.002 |
| (61,0.727273) | 0.0005 |
| (61,0.75) | 0.0015 |
| (61,0.75) | 0.0015 |
| (61,0.77778) | 0.0005 |
| (61,0.8) | 0.0005 |
| (61,0.8) | 0.0025 |
| (61,0.833333) | 0.0025 |
| (61,0.857143) | 0.002 |
| (61,0.875) | 0.001 |
| (61,0.888889) | 0.0005 |
| (62,7.39409e-14) | 0.0005 |
| (62,8.21565e-14) | 0.0005 |
| (62,9.23706e-14) | 0.002 |
| (62,1.05582e-13) | 0.001 |
| (62,1.23124e-13) | 0.001 |

| (62,1.47771e-13) | |
|------------------|--------|
| (62,1.84741e-13) | 0.004 |
| (62,2.46358e-13) | 0.0015 |
| (62,3.69482e-13) | 0.002 |
| (62,7.38964e-13) | 0.0005 |
| (62,0.142857) | 0.001 |
| (62,0.166667) | 0.0005 |
| (62,0.166667) | 0.0015 |
| (62,0.181818) | 0.0005 |
| (62,0.2) | 0.0015 |
| (62,0.2) | 0.0015 |
| (62,0.25) | 0.004 |
| (62,0.285714) | 0.0015 |
| (62,0.3) | 0.001 |
| (62,0.333333) | 0.0005 |
| (62,0.333333) | 0.003 |
| (62,0.333333) | 0.005 |
| (62,0.4) | 0.004 |
| (62,0.416667) | 0.001 |
| (62,0.428571) | 0.0035 |
| (62,0.44444) | 0.0005 |
| (62,0.5) | 0.0005 |
| (62,0.5) | 0.002 |
| (62,0.5) | 0.004 |
| (62,0.5) | 0.0035 |
| (62,0.5) | 0.0015 |
| (62,0.545455) | 0.0005 |
| (62,0.555556) | 0.002 |
| (62,0.571429) | 0.002 |

| (62,0.6) | 0.0015 |
|------------------|--------|
| (62,0.6) | 0.0025 |
| (62,0.625) | 0.0005 |
| (62,0.666667) | 0.0005 |
| (62,0.666667) | 0.0065 |
| (62,0.666667) | 0.003 |
| (62,0.7) | 0.001 |
| (62,0.714286) | 0.0015 |
| (62,0.75) | 0.005 |
| (62,0.75) | 0.006 |
| (62,0.77778) | 0.0005 |
| (62,0.8) | 0.0015 |
| (62,0.8) | 0.0055 |
| (62,0.833333) | 0.004 |
| (62,0.857143) | 0.0045 |
| (62,0.875) | 0.0025 |
| (62,0.888889) | 0.001 |
| (62,0.9) | 0.0005 |
| (62,0.909091) | 0.001 |
| (62,0.916667) | 0.0005 |
| (63,7.39409e-14) | 0.0005 |
| (63,8.21565e-14) | 0.0035 |
| (63,9.23706e-14) | 0.0035 |
| (63,1.05582e-13) | 0.003 |
| (63,1.23124e-13) | 0.0035 |
| (63,1.47771e-13) | 0.0055 |
| (63,1.84741e-13) | 0.0065 |
| (63,2.46358e-13) | 0.0035 |
| (63,3.69482e-13) | 0.005 |

| (63,7.38964e-13) | 0.002 |
|------------------|--------|
| (63,0.0833333) | 0.0005 |
| (63,0.1) | 0.001 |
| (63,0.11111) | 0.0005 |
| (63,0.125) | 0.0015 |
| (63,0.142857) | 0.0035 |
| (63,0.166667) | 0.0075 |
| (63,0.2) | 0.0075 |
| (63,0.25) | 0.0025 |
| (63,0.25) | 0.008 |
| (63,0.285714) | 0.005 |
| (63,0.3) | 0.0025 |
| (63,0.333333) | 0.001 |
| (63,0.333333) | 0.0075 |
| (63,0.333333) | 0.0055 |
| (63,0.363636) | 0.001 |
| (63,0.375) | 0.0025 |
| (63,0.4) | 0.001 |
| (63,0.4) | 0.005 |
| (63,0.428571) | 0.0035 |
| (63,0.44444) | 0.001 |
| (63,0.5) | 0.0005 |
| (63,0.5) | 0.0005 |
| (63,0.5) | 0.0025 |
| (63,0.5) | 0.0075 |
| (63,0.5) | 0.0075 |
| (63,0.5) | 0.002 |
| (63,0.555556) | 0.003 |
| (63,0.571429) | 0.005 |

| | 0.000 - |
|------------------|----------------|
| (63,0.6) | 0.0005 |
| (63,0.6) | 0.006 |
| (63,0.625) | 0.002 |
| (63,0.636364) | 0.0005 |
| (63,0.666667) | 0.0035 |
| (63,0.666667) | 0.009 |
| (63,0.666667) | 0.0045 |
| (63,0.7) | 0.001 |
| (63,0.714286) | 0.0065 |
| (63,0.727273) | 0.0005 |
| (63,0.75) | 0.0005 |
| (63,0.75) | 0.0045 |
| (63,0.75) | 0.007 |
| (63,0.77778) | 0.002 |
| (63,0.8) | 0.0075 |
| (63,0.818182) | 0.0005 |
| (63,0.833333) | 0.0005 |
| (63,0.833333) | 0.007 |
| (63,0.857143) | 0.0035 |
| (63,0.875) | 0.003 |
| (63,0.888889) | 0.001 |
| (63,0.9) | 0.001 |
| (63,0.909091) | 0.001 |
| (64,6.71685e-14) | 0.0005 |
| (64,7.39409e-14) | 0.0005 |
| (64,8.21565e-14) | 0.0015 |
| (64,9.23706e-14) | 0.0015 |
| (64,1.05582e-13) | 0.005 |
| (64,1.23124e-13) | 0.01 |

| (64.1.47771 - 10) | 0.0095 |
|-------------------|--------|
| (64,1.47771e-13) | |
| (64,1.84741e-13) | |
| (64,2.46358e-13) | 0.007 |
| (64,3.69482e-13) | 0.0015 |
| (64,7.38964e-13) | 0.002 |
| (64,0.0769231) | 0.0005 |
| (64,0.1) | 0.0005 |
| (64,0.111111) | 0.0025 |
| (64,0.125) | 0.0055 |
| (64,0.142857) | 0.0005 |
| (64,0.142857) | 0.0045 |
| (64,0.166667) | 0.006 |
| (64,0.181818) | 0.0005 |
| (64,0.2) | 0.002 |
| (64,0.2) | 0.0095 |
| (64,0.222222) | 0.001 |
| (64,0.25) | 0.0045 |
| (64,0.25) | 0.005 |
| (64,0.272727) | 0.001 |
| (64,0.285714) | 0.006 |
| (64,0.3) | 0.0015 |
| (64,0.333333) | 0.002 |
| (64,0.333333) | 0.0085 |
| (64,0.333333) | 0.0075 |
| (64,0.363636) | 0.001 |
| (64,0.375) | 0.0055 |
| (64,0.4) | 0.0005 |
| (64,0.4) | 0.0105 |
| (64,0.428571) | 0.0055 |

| $\begin{array}{c ccccc} (64,0.444444) & 0.002\\ \hline (64,0.454545) & 0.000\\ \hline (64,0.5) & 0.002\\ \hline (64,0.5) & 0.006\\ \hline (64,0.5) & 0.006\\ \hline (64,0.5) & 0.006\\ \hline (64,0.5) & 0.006\\ \hline (64,0.555556) & 0.003\\ \hline (64,0.6) & 0.007\\ \hline (64,0.6) & 0.007\\ \hline (64,0.625) & 0.003\\ \hline (64,0.636364) & 0.006\\ \hline (64,0.6666667) & 0.006\\ \hline \end{array}$ |)5 |
|--|----------|
| $\begin{array}{c} (64,0.5) \\ (64,0.5) \\ (64,0.5) \\ (64,0.5) \\ (64,0.5) \\ (64,0.5) \\ (64,0.5) \\ (64,0.5) \\ (64,0.555556) \\ (64,0.6) \\ (64,0.6) \\ (64,0.6) \\ (64,0.6) \\ (64,0.625) \\ (64,0.636364) \\ (64,0.60) \\ (64,0.60) \\ (64,0.666667) \\ (60,000) \\ (64,0.60) \\$ | |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | <u>'</u> |
| $\begin{array}{c ccccc} (64,0.5) & 0.006 \\ \hline (64,0.5) & 0.006 \\ \hline (64,0.5) & 0.006 \\ \hline (64,0.555556) & 0.003 \\ \hline (64,0.571429) & 0.007 \\ \hline (64,0.6) & 0.007 \\ \hline (64,0.625) & 0.003 \\ \hline (64,0.636364) & 0.006 \\ \hline (64,0.666667) & 0.006 \\ \hline \end{array}$ | |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | |
| $\begin{array}{c ccccc} (64,0.5) & 0.000 \\ \hline (64,0.555556) & 0.003 \\ \hline (64,0.571429) & 0.007 \\ \hline (64,0.6) & 0.007 \\ \hline (64,0.6) & 0.007 \\ \hline (64,0.625) & 0.003 \\ \hline (64,0.636364) & 0.000 \\ \hline (64,0.666667) & 0.000 \\ \hline \end{array}$ | 35 |
| $\begin{array}{c} (64,0.555556) \\ (64,0.571429) \\ (64,0.6) \\ (64,0.6) \\ (64,0.625) \\ (64,0.636364) \\ (64,0.666667) \\ (64,0.6066667) \\ (64,0.6066667) \\ (60,000666667) \\ (60,000666667) \\ (60,0006666667) \\ (60,0006666667) \\ (60,0006666667) \\ (60,0006666667) \\ (60,0006666667) \\ (60,0006666667) \\ (60,0006666667) \\ (60,0006666667) \\ (60,0006666667) \\ (60,0006666667) \\ (60,0006666667) \\ (60,0006666667) \\ (60,0006666667) \\ (60,0006666667) \\ (60,000666667) \\ (60,00066666667) \\ (60,00066666667) \\ (60,00066666667) \\ (60,00066666667) \\ (60,00066666667) \\ (60,00066666666666667) \\ (60,00066666666666666666666666666666666$ | 3 |
| $\begin{array}{c} (64,0.571429) \\ (64,0.6) \\ (64,0.6) \\ (64,0.6) \\ (64,0.625) \\ (64,0.636364) \\ (64,0.666667) \\ 0.000 \\ \end{array}$ |)5 |
| (64,0.6) 0.001 (64,0.6) 0.007 (64,0.625) 0.003 (64,0.636364) 0.000 (64,0.666667) 0.000 | 3 |
| (64,0.6) 0.007 (64,0.625) 0.003 (64,0.636364) 0.000 (64,0.6666667) 0.000 | 7 |
| (64,0.625) 0.003 (64,0.636364) 0.000 (64,0.6666667) 0.000 | - |
| (64,0.636364)0.000(64,0.6666667)0.000 | 7 |
| (64,0.666667) 0.000 | 3 |
| |)5 |
| |)5 |
| (64,0.666667) 0.001 | 5 |
| (64,0.666667) 0.007 | 7 |
| (64,0.666667) 0.005 | 5 |
| (64,0.714286) 0.007 | 75 |
| (64,0.727273) 0.001 | .5 |
| (64,0.75) 0.003 | 35 |
| (64,0.75) 0.007 | 75 |
| (64,0.777778) 0.003 | 3 |
| (64,0.8) 0.000 |)5 |
| (64,0.8) 0.008 | 3 |
| (64,0.818182) 0.000 |)5 |
| (64,0.833333) 0.007 | 7 |
| (64,0.857143) 0.000 | |
| (64,0.857143) 0.007 |)5 |
| (64,0.875) 0.002 | |

| (64,0.888889) | 0.001 |
|------------------|--------|
| (64,0.9) | 0.001 |
| (64,0.909091) | 0.002 |
| (65,6.71685e-14) | 0.0005 |
| (65,7.39409e-14) | 0.0015 |
| (65,8.21565e-14) | 0.0025 |
| (65,9.23706e-14) | 0.004 |
| (65,1.05582e-13) | 0.006 |
| (65,1.23124e-13) | 0.0085 |
| (65,1.47771e-13) | 0.0055 |
| (65,1.84741e-13) | 0.011 |
| (65,2.46358e-13) | 0.006 |
| (65,3.69482e-13) | 0.001 |
| (65,7.38964e-13) | 0.0025 |
| (65,0.0909091) | 0.001 |
| (65,0.1) | 0.0005 |
| (65,0.11111) | 0.002 |
| (65,0.125) | 0.0025 |
| (65,0.142857) | 0.0035 |
| (65,0.166667) | 0.0055 |
| (65,0.181818) | 0.001 |
| (65,0.2) | 0.0015 |
| (65,0.2) | 0.009 |
| (65,0.222222) | 0.002 |
| (65,0.25) | 0.004 |
| (65,0.25) | 0.007 |
| (65,0.272727) | 0.0005 |
| (65,0.285714) | 0.0085 |
| (65,0.3) | 0.001 |

| I | |
|---------------|--------|
| (65,0.333333) | 0.0005 |
| (65,0.333333) | 0.0015 |
| (65,0.333333) | 0.007 |
| (65,0.333333) | 0.0045 |
| (65,0.357143) | 0.0005 |
| (65,0.375) | 0.004 |
| (65,0.4) | 0.0015 |
| (65,0.4) | 0.007 |
| (65,0.428571) | 0.0055 |
| (65,0.44444) | 0.001 |
| (65,0.454545) | 0.0005 |
| (65,0.5) | 0.0025 |
| (65,0.5) | 0.008 |
| (65,0.5) | 0.005 |
| (65,0.5) | 0.003 |
| (65,0.538462) | 0.0005 |
| (65,0.555556) | 0.0015 |
| (65,0.571429) | 0.004 |
| (65,0.6) | 0.007 |
| (65,0.625) | 0.003 |
| (65,0.636364) | 0.0005 |
| (65,0.666667) | 0.004 |
| (65,0.666667) | 0.005 |
| (65,0.6875) | 0.0005 |
| (65,0.7) | 0.002 |
| (65,0.714286) | 0.0035 |
| (65,0.727273) | 0.001 |
| (65,0.75) | 0.0025 |
| (65,0.75) | 0.004 |

| (65,0.77778) | 0.001 |
|------------------|--------|
| (65,0.8) | 0.0015 |
| (65,0.8) | 0.0085 |
| (65,0.833333) | 0.0045 |
| (65,0.857143) | 0.003 |
| (65,0.875) | 0.001 |
| (65,0.888889) | 0.002 |
| (65,0.916667) | 0.0005 |
| (66,6.71685e-14) | 0.0005 |
| (66,8.21565e-14) | 0.001 |
| (66,9.23706e-14) | 0.0025 |
| (66,1.05582e-13) | 0.002 |
| (66,1.23124e-13) | 0.0055 |
| (66,1.47771e-13) | 0.0035 |
| (66,1.84741e-13) | 0.0035 |
| (66,2.46358e-13) | 0.006 |
| (66,3.69482e-13) | 0.0015 |
| (66,0.1) | 0.0005 |
| (66,0.111111) | 0.0015 |
| (66,0.125) | 0.0005 |
| (66,0.142857) | 0.0035 |
| (66,0.166667) | 0.0035 |
| (66,0.2) | 0.0005 |
| (66,0.2) | 0.0045 |
| (66,0.222222) | 0.001 |
| (66,0.25) | 0.0025 |
| (66,0.25) | 0.007 |
| (66,0.285714) | 0.003 |
| (66,0.333333) | 0.0015 |

| (66,0.333333) | 0.0035 |
|---------------|--------|
| (66,0.333333) | 0.003 |
| (66,0.375) | 0.002 |
| (66,0.4) | 0.0005 |
| (66,0.4) | 0.004 |
| (66,0.428571) | 0.0025 |
| (66,0.44444) | 0.0005 |
| (66,0.5) | 0.001 |
| (66,0.5) | 0.003 |
| (66,0.5) | 0.004 |
| (66,0.5) | 0.0015 |
| (66,0.555556) | 0.0005 |
| (66,0.571429) | 0.002 |
| (66,0.6) | 0.002 |
| (66,0.625) | 0.0015 |
| (66,0.636364) | 0.0005 |
| (66,0.666667) | 0.0005 |
| (66,0.666667) | 0.0035 |
| (66,0.666667) | 0.001 |
| (66,0.7) | 0.0005 |
| (66,0.714286) | 0.001 |
| (66,0.75) | 0.001 |
| (66,0.75) | 0.004 |
| (66,0.769231) | 0.0005 |
| (66,0.8) | 0.0005 |
| (66,0.8) | 0.0025 |
| (66,0.833333) | 0.0015 |
| (66,0.857143) | 0.001 |
| (66,0.875) | 0.001 |

| (66,0.888889) | 0.001 |
|------------------|--------|
| (67,6.71685e-14) | |
| (67,1.05582e-13) | 0.002 |
| (67,1.23124e-13) | 0.0025 |
| (67,1.47771e-13) | 0.003 |
| (67,1.84741e-13) | 0.0015 |
| (67,2.46358e-13) | 0.001 |
| (67,3.69482e-13) | 0.0015 |
| (67,0.0909091) | 0.0005 |
| (67,0.1) | 0.0005 |
| (67,0.111111) | 0.0005 |
| (67,0.125) | 0.001 |
| (67,0.142857) | 0.0005 |
| (67,0.2) | 0.001 |
| (67,0.222222) | 0.0005 |
| (67,0.25) | 0.0005 |
| (67,0.285714) | 0.0005 |
| (67,0.3) | 0.0005 |
| (67,0.333333) | 0.001 |
| (67,0.333333) | 0.003 |
| (67,0.333333) | 0.0015 |
| (67,0.375) | 0.0015 |
| (67,0.428571) | 0.0005 |
| (67,0.5) | 0.0005 |
| (67,0.5) | 0.001 |
| (67,0.5) | 0.0005 |
| (67,0.5) | 0.0005 |
| (67,0.571429) | 0.001 |
| (67,0.6) | 0.001 |

| (67,0.625) | 0.001 |
|------------------|--------|
| (67,0.666667) | 0.0005 |
| (67,0.666667) | 0.0005 |
| (67,0.75) | 0.0025 |
| (67,0.8) | 0.002 |
| (67,0.857143) | 0.0005 |
| (68,7.39409e-14) | 0.0005 |
| (68,1.23124e-13) | 0.0025 |
| (68,1.47771e-13) | 0.001 |
| (68,0.1) | 0.0005 |
| (68,0.25) | 0.002 |
| (68,0.3) | 0.0005 |
| (68,0.333333) | 0.0005 |
| (68,0.375) | 0.0005 |
| (68,0.428571) | 0.0005 |
| (68,0.5) | 0.001 |
| (68,0.5) | 0.0005 |
| (68,0.666667) | 0.0005 |
| (68,0.833333) | 0.0005 |
| (68,0.9) | 0.0005 |
| (69,2.46358e-13) | 0.0005 |
| (69,0.166667) | 0.0005 |
| (69,0.4) | 0.0005 |
| (69,0.5) | 0.0005 |
| (69,0.625) | 0.001 |
| (70,0.5) | 0.0005 |