

## 2023 Mathematical Olympiad Summer Program Schedule

| Sun Jun 4   | Mon Jun 5 | Tue Jun 6 | Wed Jun 7   | Thu Jun 8  | Fri Jun 9  | Sat Jun 10  |
|---|-----------|-----------|---|--|--|-------------|
| <i>(red W4707)</i><br><i>(red W4708)</i><br><i>(green W5320)</i><br><i>(blue W4709)</i><br><i>(black W5312)</i> |           |           | <b>PL</b> Fun equations<br><b>MR</b><br><b>OS</b> Fun equations<br>$\mathfrak{S}$ Scouting<br><b>JL</b> Algeb combin  | <b>TW</b> Inversion<br><b>OS</b> Fun equations<br><b>TS</b> Powerpoint<br><b>MR</b> Sequences<br>$\mathfrak{S}$ Scouting | $\mathfrak{S}$ Scouting<br><b>TS</b> Powerpoint<br><b>MR</b> Finite case geo<br><b>TW</b> Calculus fun eq<br><b>AS</b> Potential fun |             |
|   |           |           | <b>MR</b> True/false<br><b>PL</b> Fun equations<br><b>TW</b> Inversion<br><b>MG</b> Quadr recipr<br><b>AG</b> Parity  | <b>OS</b> Fun equations<br><b>TW</b> Inversion<br>$\mathfrak{S}$ Scouting<br><b>RZ</b> 5-coloring<br><b>MR</b>           | <b>TS</b> Powerpoint<br>$\mathfrak{S}$ Scouting<br><b>AS</b> Interpolation<br><b>MR</b> Gergonne Apol<br><b>TW</b> Calculus fun eq   |             |
|   |           | Arrival   | <b>HM, KJ</b> Hwk rvw<br><b>DZ, SA</b> Hwk rvw<br><b>CS, MH</b> Hwk rvw<br><b>CT, EG</b> Hwk rvw<br><b>LR</b> Hwk rvw | MOP Test 1   | <b>MH</b> Invariants<br><b>LR</b> $\arg(\ell)$<br><b>AG</b> AG<br><b>OS</b> Fun equations<br><b>MR</b> Porisms                       | Mock IMO 1  |
| <i>(optional)</i>   |           |           | <b>MH</b> Bashing   | Test review  | <b>MR</b> Art  | Test review |

| Sun Jun 11               | Mon Jun 12  | Tue Jun 13   | Wed Jun 14  | Thu Jun 15   | Fri Jun 16   | Sat Jun 17        |
|--------------------------|---|--|---|--|--|-------------------|
|                          | <b>MG</b> Counter prob<br><b>RZ</b> 5-coloring<br><b>TS</b> Comb polynom<br><b>AG</b> AG<br><b>AS</b> Irreducibility        | <b>TS</b> Comb polynom<br><b>AK</b> Primes, divisibility<br><b>MG</b> Counter prob<br><b>JL</b> Algeb combin<br><b>LR</b> $\arg(\ell)$ | <b>SA, HM</b> Guess<br><b>RZ</b> Variants<br><b>MG</b> Quadr recipr<br><b>AG</b> Derivatives<br><b>JL</b> Probab combin | <b>TS</b> Area method<br><b>MG</b> Quadr recipr<br><b>RZ</b> Variants<br><b>JL</b> Probab combin<br><b>DZ</b> $p$ -adics           | <b>AK</b> $\mathbb{Z}$ polynomials<br><b>VH, LR</b><br><b>JL</b><br><b>TS</b> Comb polynom<br><b>AG</b> Algo constr            |                   |
|                          | <b>RZ</b> 5-coloring<br><b>MG</b> Counter prob<br><b>PL</b> Fun equations<br><b>AS</b> Polyn roots<br><b>AG</b> Derivatives | <b>AK</b> Primes, divisibility<br><b>TS</b> Comb polynom<br><b>MH</b> Invariants<br><b>AS</b> Potential fun<br><b>PL</b> Fun equations | Joel Spencer  | <b>MG</b> Quadr recipr<br><b>TS</b> Area method<br><b>AK</b> Primes, divisibility<br><b>PL</b> Fun equations<br><b>VH</b> Fast geo | <b>RZ</b> Variants<br><b>AK</b> $\mathbb{Z}$ polynomials<br><b>PL</b> Recursions<br><b>AG</b> Algo constr<br><b>TS</b> Fourier |                   |
|                          | MOP Test 2  | Assembly   | MOP Test 3  | Philosophy   | MOP Test 4   |                   |
| <b>EG</b> Neural net geo | Test review   | <b>AS</b> Sperner  | Test review   | <b>CS</b> Seminar  | Test review  | <b>JL</b> Seminar |

| Sun Jun 18  | Mon Jun 19  | Tue Jun 20  | Wed Jun 21  | Thu Jun 22   | Fri Jun 23   | Sat Jun 24  |
|-------------|---|---|---|--|--|-------------|
|             | <b>PL</b> Recursions<br><b>AP</b> Abel grp, BQF<br><b>SA, HM</b> Guess<br>⊗ Extrem algeb<br><b>LR</b> Unbashing | <b>JM</b> Graph theory 1<br><b>YM</b> Geometry<br><b>AP</b> Abel grp, BQF<br>⊗ Understand<br><b>AG</b> Inequalities                 | ⊗ Understand<br><b>TC</b><br><b>AS</b> Buffalo<br><b>JL</b> <i>WTP</i><br><b>DZ</b> Delocalization                    | <b>JM</b> Graph theory 2<br><b>AS</b> Just do it<br><b>AP</b> $\zeta$ function<br><b>TC</b><br>⊗ Understand      | <b>SR</b> Combin philos<br><b>JL</b> Spiral sim<br><b>OS</b> Combin geo<br><b>AS</b> ⊗ geometry<br><b>AP</b> Modular forms |             |
|             | <b>AP</b> Abel grp, BQF<br><b>PL</b> Recursions<br><b>OS</b> Polynomials<br><b>LR</b><br><b>JL</b> <i>WTP</i>   | <b>YM</b> Geometry<br><b>JM</b> Graph theory 1<br><b>PL</b> Number theory<br><b>AP</b> Bhargavology<br><b>MH</b> <i>k</i> -suitable | <b>TC</b><br>⊗ Understand<br><b>JM</b> Graph theory 1<br><b>PL</b> Recursions<br><b>VH</b> Hard NT                    | <b>AS</b> Just do it<br><b>JM</b> Graph theory 2<br><b>TC</b><br><b>AP</b> Modular forms<br><b>PL</b> Recursions | <b>JL</b> Spiral sim<br><b>SR</b> Combin philos<br><b>JM</b> Graph theory 2<br><b>PL</b> Number theory<br><b>CS</b>        |             |
| Mock IMO 2  | Assembly  | TSTST 1   | <b>JM</b> Combinatorics<br><b>AG</b> Simson line<br>⊗ Understand<br><b>MH</b> Combinatorics<br><b>AP</b> Bhargavology | TSTST 2  | <b>AG</b> Simson line<br><b>JM</b> Combinatorics<br><b>AS</b> Polyn roots<br><b>DZ</b> Fourier<br><b>TC</b>                | TSTST 3     |
| Test review | <b>VH</b> AI algos  | Test review   |   | Test review  | <b>BB</b> Transcendental   | Test review |

| Sun Jun 25 | Mon Jun 26   | Tue Jun 27  | Wed Jun 28 | Thu Jun 29 | Fri Jun 30 | Sat Jul 1 |
|------------|--|---|------------|------------|------------|-----------|
|            | <b>OS</b> Polynomials<br><b>TC</b><br><b>JL</b> Spiral sim<br><b>AG</b> Interact games<br><b>VH</b> Faster geo       | Black teaches red<br><b>PL</b> Number theory<br><b>SR</b> Combin optim<br><b>OS</b> Combin geo<br><b>AS</b> Euler product | Departure  |            |            |           |
|            | <b>TC</b><br><b>OS</b> Polynomials<br><b>VH</b> Geometry<br><b>DZ</b> <i>p</i> -adics<br><b>SR</b> Tangent circles   | <b>PL</b> Number theory<br>Black teaches red<br><b>AS</b> ⊗ geometry<br><b>TC</b><br><b>JL</b> ⊗                          |            |            |            |           |
|            | <b>LR</b> $\arg(\ell)$<br><b>MH</b> Invariants<br><b>CS</b><br><b>SR</b> Tangent circles<br><b>AG</b> Interact games | Assembly  |            |            |            |           |
|            | <b>QQ</b> Seminar  | Closing   |            |            |            |           |