



MCAMC 2019 Answers

Individual Round

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|-------------------|--------------------|
| 1. .67 | 11. 15 |
| 2. 4 | 12. 25 |
| 3. 6 | 13. -2.25 |
| 4. 1260 | 14. 27 |
| 5. $\frac{1}{11}$ | 15. $\frac{1}{15}$ |
| 6. 289 | 16. 20 |
| 7. 5 | 17. $\frac{9}{25}$ |
| 8. 72 | 18. 154 |
| 9. .4 | 19. 30 |
| 10. 213 | 20. 0 |

Team Round

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|-------------|--|
| 1. 6 | 12. 1, 2, 3, 4 |
| 2. 8 | 13. 7 |
| 3. 6 | 14. $n - 1$ |
| 4. $s = 2m$ | 15. 2 |
| 5. 12 | 16. second |
| 6. 0 | 17. 4 |
| 7. B | 18. 7 |
| 8. 48 | 19. height, $x + 1$ or number of vertices, $\lceil \log_2(x + 1) \rceil$
or number of edges $\lceil \log_2(x + 2) \rceil$ or number of
layers, x |
| 9. 38 | 20. 4 |
| 10. 2 | |
| 11. neither | |

Live Round

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|-----------------|----------------------------|
| 1. 9 | 13. 11.5 or $\frac{23}{2}$ |
| 2. 90 | 14. 51 |
| 3. 12 | 15. 950 |
| 4. 10 | 16. 120 |
| 5. 10 | 17. 10 |
| 6. $\sqrt{3}/2$ | 18. 14π |
| 7. 3 | 19. 1080 |
| 8. 18 | 20. 25 |
| 9. 1815 | 21. 1156 |
| 10. 3 | 22. 56 |
| 11. 20 | 23. 44 |
| 12. 5 | 24. 9 |