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# MATHCOUNTS®

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**2014**  
■ **State Competition** ■  
**Answer Key**

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The appropriate units (or their abbreviations) are provided in the answer blanks.

**Note to coordinators:** Answers to the Tiebreaker Round problems appear in the Tiebreaker Round Booklet.

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### Sprint Round

1. 200

2. -7

3.  $\frac{1}{16}$

4.  $\frac{1}{3}$

5. 896

6. 5

7. 13 polygons

8. 343

9. 0 terms

10.  $\frac{1}{3}$

11. 490 in<sup>2</sup>

12.  $5\frac{1}{2}$  units<sup>2</sup>

13. 176

14. 264

15. 8

**Sprint Round**

16.  $\frac{7}{27}$

17.  $\frac{2}{9}$

18.  $20$  codes

19.  $7$  students

20.  $33033$  base 5

21.  $\sqrt{5}$

22.  $6$  marbles

23.  $8\sqrt{2}$  units

24.  $10$  digits

25.  $504$  cm<sup>2</sup>

26.  $1806$  ways

27.  $\frac{7}{4}$

28.  $1$

29.  $7$  integers

30.  $10\sqrt{3}$  units

**Target Round**

1.  $\underline{\$ 89.99}$

3.  $\underline{4050 \text{ ft}^2}$

5.  $\underline{45}$

7.  $\underline{\frac{9}{64}}$

2.  $\underline{5 \text{ pounds}}$

4.  $\underline{22}$

6.  $\underline{\frac{1}{5}}$

8.  $\underline{176 \text{ m}^2}$

## Team Round

1. 14

2.  $\frac{1}{4}$

3.  $-\frac{1}{2}$

4. 25 cm

5. 8 integers

6. 82.5 miles

7. 8 solids

8. ( 4 , -2 )

9. 51

10.  $\frac{3}{4}$

## Countdown Round

1. 5

2. 20 (even integers)

3.  $\sqrt{3}$  (units<sup>2</sup>)

4. 16 (workers)

5. 20 (classes)

6.  $\sqrt{3}$  (feet)

7. -1

8. 4029 (integers)

9. -3

10. 99

11. 12

12. -5

13.  $4\pi$  (units<sup>2</sup>)

14. 198

15. 6 (values)

16. 7 (units)

17. 11 (digits)

18. 5 (packages)

19. 91 (combinations)

20. 288

21. 18 (units<sup>2</sup>)

22. 8 (minutes)

23.  $2\sqrt{6}$

24. 15 (permutations)

25. 12 (meters)

26. 380 (in<sup>2</sup>)

27.  $\frac{m}{m-1}$  or  $\frac{-m}{1-m}$

28. 8192

29. 75

30. 1996

31. 720

32. 1

33. 5

34. 31

35. 441

36. 0

37. 4 (people)

38. 50

39. 5

40. 720 (ways)

**Countdown Round**

41.  $\frac{y^4 z}{x}$

42.  $\frac{14 \text{ (dollars)}}{1}$

43.  $\frac{15}{1}$

44.  $\frac{14}{1}$

45.  $\frac{24 \text{ (students)}}{1}$

46.  $\frac{-10}{1}$

47.  $\frac{968}{1}$

48.  $\frac{12}{1}$

49.  $\frac{7}{1}$

50.  $\frac{1}{2}$

51.  $\frac{11}{216}$

52.  $\frac{36 \text{ (degrees)}}{1}$

53.  $\frac{84 \text{ (ways)}}{1}$

54.  $\frac{9}{1}$

55.  $\frac{144 \text{ (reports)}}{1}$

56.  $\frac{55}{1}$

57.  $\frac{15 \text{ (miles)}}{1}$

58.  $\frac{22}{1}$

59.  $\frac{18 \text{ (units)}}{1}$

60.  $\frac{3 \text{ (ways)}}{1}$

61.  $\frac{22 \text{ (problems)}}{1}$

62.  $\frac{-12}{21}$

63.  $\frac{100}{1}$

64.  $\frac{23}{1}$

65.  $\frac{45 \text{ (cents)}}{1}$

66.  $\frac{6}{1}$

67.  $\frac{7}{1}$

68.  $\frac{1 \text{ (integers)}}{1}$

69.  $\frac{7 \text{ (ordered pairs)}}{1}$

70.  $\frac{41 \text{ (percent)}}{1}$

71.  $\frac{15}{1}$

72.  $4\frac{8}{15} \text{ (miles)}$

73.  $\frac{20}{1}$

74.  $\frac{5 \text{ (digits)}}{1}$

75.  $\frac{53}{1}$

76.  $\frac{15 \text{ (units)}}{1}$

77.  $\frac{720 \text{ (arrangements)}}{1}$

78.  $\frac{32 \text{ (ways)}}{1}$

79.  $\frac{2613 \text{ (votes)}}{1}$

80.  $\frac{1}{2}$

