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# MATHCOUNTS®

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2003

■ National Competition ■

Answer Key

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Optional units are indicated in parentheses. Standard abbreviations have been used for units of measure. Complete words or symbols are also acceptable. Square units or cube units may also be expressed as units<sup>2</sup> or units<sup>3</sup>.

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## Sprint Round

1. 10

2. (\$ 12 (dollars))

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

4. 252

5. 751 (toothpicks)

6. 17.5

7.  $\frac{47}{12}$

8. 697

9.  $\frac{\pi}{4}$  or  $\frac{1}{4}\pi$

10. Affirmed

11. 25.5 (square units)

12. 6 (days)

13. 8192

14. 10

15. 144

### Sprint Round

16. 20

17. 38 (values)

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

19. 5 (arrangements)

20. 2

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

22. 24 (patients)

23. 4.5 (miles per hour)

24.  $\frac{5}{6}$

25.  $4a + a\sqrt{5}$  (units)  
or equivalent

26.  $\frac{18}{295}$

27. 90 (4's)

28.  $116 + 4\sqrt{26}$

29. 10 (regions)

30.  $\frac{1}{8}$

**Target Round**

1. 6 (pairs)

3. 12 (squares)

5. 4.14 (inches)

7.  $\frac{83}{48}$

2. 22.21 (inches)

4. 22.5

6. 24

8. 157.5 (degrees)

**Team Round**

1. 56.25 (percent)

2. 50 (squares)

3. 5

4.  $\frac{3}{2}$

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

6. 8 (days)

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

8. 24

9. 185

10. 8,424,000 (combinations)