

# SCIENCE SIZZLERS MATH



*Preparing for engineering entrance examinations or Math Olympiad ? Well, here is something exclusively for you.*

*Our expert, Anand Kumar of Ramanujan School of Mathematics will provide you two questions, which you have to answer. If you are confident, just mail your entries to The Hindustan Times, Budh Marg, Patna-1. You can also send in your entries through e-mail [gdesk@hindustantimes.com](mailto:gdesk@hindustantimes.com).*

*Please superscribe your envelope with Science Sizzlers and write your name, address and answers neatly. The names of the first three all-correct entries will be published in the January 23 issue of The Competitive Edge.*

*Our expert will also give the correct answers in the January 23 issue. So, go ahead. All the best!*

## Problems-2

Find the number of solutions of the following equations:—

1.  $|x - |2x + 1|| = 3$

2.  $|x - |x - 1|| = 0$

## Answers of Dec 26 issue

1. -2

2. x

*The names of the first three all-correct entries are:*

1. Bhartendu Nandan, Mahendru, Patna
  2. Nishant Kumar, Sikhari Chak, Mokama Ghat
  3. Kislay Kumar, Sri Krishna Nagar, Motihari
- Congratulations to you all*

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Please superscribe your envelope with *Science Sizzlers* and write your name, address and answers neatly. The names of the first three all-correct entries will be published in the February 20 issue of *The Competitive Edge*. Our expert will also give the correct answers in the same issue. So, go ahead. All the best!

## Problems-4

Evaluate the following:

$$1. \int_{\frac{\pi}{2}}^{\frac{5\pi}{2}} |\tan^{-1} \tan x| dx$$

$$2. \int_0^{2\pi} \cos^{-1} \cos x dx$$

Answer -No-3

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

$$2. 30$$

**The names of the nine all-correct entries are:**

1 Lakshmi Kumari Rajendra Nagar, Patna-16 2 Sunil Kumar Kashyap Postal Park, Patna-1 3 Durga Charan Rajendra Nagar, Patna-16 4 Manibala, Rukunpura, Patna 5 Rajnish Kumar, New Jakkampur, Patna-1 6 Anand Prakash, Arrah, Bhojpur-802301 7 Madhukar Anand, Kumhrar, Patna-20 8 Kumar Shambhav, Chandpur Bela, Patna-1 9 Pushkar Ranjan, Rajbanshi Nagar, Patna-23

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*Please superscribe your envelope with Science Sizzlers and write your name, address and answers neatly. The names of the all-correct entries will be published in the April 3 issue of The Competitive Edge. Our expert will also give the correct answers in the same issue. So, go ahead. All the best!*

## Problems-7

Find the last digit of the following numbers

1.  $1! + 2! + 3! + \dots + 2000! + 2001!$
2.  $9^{99}$

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Answers of Problems-6

1. 1
2. 3

*The names of the all-correct entries are: 1. Shivkant Shakur, Kankarbagh, Patna 2. Nancy, Beta Chowk, Darbhanga 3. Saurabh Anand, Punaichak, Patna 4. Kamleshwar Kumar Yadav, Patna 5. Abhishek Kumar, Shastri Nagar Patna 6. Pankaj Kumar, Chapra 7. Avinash Kumar Chaubey, Patna 8. Bharti, Mahendru, Patna*

**Congratulations to you all!**