

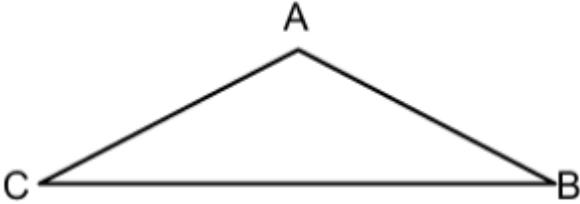


Knights of Pi Math Tournament – Dec. 20<sup>th</sup>,  
2014

## Speed Math 5th/6th

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| 1  | What is the slope of the line intersecting the coordinates (1,0) and (3,12)? What is the slope of the line intersecting the coordinates (1,0) and (3,12)? |
| 2  | Evaluate $26 \times 32$   |
| 3  | Evaluate $2.4 \times 6.5$ , express your answer as a decimal.   |
| 4  | How many lines of symmetry does a square have?  |
| 5  | Find the mode of this data set: 2,4,9,2,65,3,1,6.   |
| 6  | Find the range of the data set: 2,4,9,2,65,3,1,6  |
| 7  | Find the median of this data set: 2,4,9,2,65,3,1,6, express your answer as a decimal  |
| 8  | What is the greatest common factor of 36 and 84?  |
| 9  | What is the least common multiple of 12 and 24?   |
| 10 | How many seconds are in 1.4 minutes?  |
| 11 | A car drives 60 mph for 5 hours, but on the return trip, it drives only 40mph. What is the car's average speed?   |
| 12 | What is the sum of all possible integer lengths of the third side of a right triangle with legs of 6 and 8?   |
| 13 | I roll a fair standard six sided die, what is the probability that I get a prime number?  |
| 14 | What is the product of the prime numbers that are less than 10?   |
| 15 | What is the least common factor of 21 and 11?   |
| 16 | What is minimum possible perimeter of a triangle with integer side lengths with one side of length 6?   |
| 17 | What is the 16th digit after the decimal point in the repeating decimal 0.47314731 ...?   |
| 18 | What is the largest prime number that is less than 20?  |
| 19 | A regular pentagon has side length 5. What is it's perimeter?   |
| 20 | Take the question number, multiply it by 42, divide by 3, and divide by 7.  |
| 21 | Right now it is 5:34 PM. In 49 hours and 42 minutes, what time is it? Include AM/PM in your answer.   |
| 22 | This year on February 28th it is a monday. If this year isn't a leap year, what day of the week is it on December 12th?                                   |

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| 23 | I'm thinking of a two digit number. It is both a square number and a cubic number. What is my number?   |
| 24 | What is the sum of the exterior angles of a square?   |
| 25 | A line with slope 5 intersects the point (5,9). What is this line's Y-intercept? Express your answer as an ordered coordinate.  |
| 26 | I throw a stack of 5 cards labeled 'A', 'B', 'C', 'D', and 'E' on the ground. I randomly pick them up. What is the probability that I pick them up in alphabetical order?   |
| 27 | In this very strangely made city, how many ways are there to get from point A to point B if you can only move right or down?<br> |
| 28 | A potato synthesizing firm hires workers to make potatoes. If 5 workers can complete an order of potatoes in 7 days, what is the minimum whole number of days necessary for 3 workers to complete the same order? |
| 29 | If $x^3 + 3 = 11$ , what is the value of $7x + 2x - 8$ ?  |
| 30 | Evaluate: $10012 - 9992$ .  |
| 31 | Solve for $x$ : $7x + 19 = 33$  |
| 32 | What is the sum of the prime factors of 2013?   |
| 33 | How many factors does 100 have?   |
| 34 | Evaluate: $(3! + 1!)/2!$  |
| 35 | How fast is a car if it begins with a velocity of 20 m/s and accelerates at 16 m/s/s for 6 seconds?   |
| 36 | Find the sum of the following infinite sequence: $2, \frac{1}{2}, 1, \frac{1}{3}, \frac{1}{2}, \frac{2}{9}, \frac{1}{4}, \frac{4}{27}, \frac{1}{8}, \dots$  |
| 37 | What a number that is both even and a prime?  |
| 38 | What is the sum of interior angles of a heptagon in degrees?  |
| 39 | How many one digit numbers is 84 divisible by?  |
| 40 | In a right triangle, the length of the legs are 5 and 7 respectively. What is the largest integer that the length of the hypotenuse is larger than?   |

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| 41 | <p>In Isosceles triangle ABC, angle A is 160 degrees. What is the product of the other two angles in the triangle?</p>   |
| 42 | Joe and Phil's math teacher assigned them a project to do. If Joe can do it by himself in 6 hours, and Phil can do it by himself in 4 hours, then if they split the work 50-50, and start working on it at the same time, how long will it take them to finish? |
| 43 | How many prime numbers are there between 50 and 60?   |
| 44 | A perfect number is a number whose factors sum to itself. The first perfect number is 6, as 1 plus 2 plus 3 is 6. What perfect number lies between 25 and 30?   |
| 45 | What is the exterior angle of a regular nonagon in degrees?   |
| 46 | Point A is outside of circle O. The lines AB and AC are tangent to circle O. If the length of AB is 5, what is the length of AC?  |
| 47 | How many ways are there to choose two people to be president and vice president out of a group of 10 peasants?  |
| 48 | Lewis can write 8 songs every day. For a week he writes songs. On the 3rd night of that week, Lewis gets sick and can only write 4 songs a day for the rest of the days in the week. How many songs did he produce over that week?                              |
| 49 | What is the least common multiple of 24 and 36?   |
| 50 | A cylindrical bucket of paint has a base area of 14 units and height of 6 units. If this bucket is $\frac{2}{3}$ filled with paint, what is the volume of paint in the bucket?  |
| 51 | How many degrees does the minute hand of a clock move cover 50 minutes?   |
| 52 | How long does it take for the hour hand of a clock to move 15 degrees in minutes?   |
| 53 | How many positive numbers that are less than 82 are divisible by 3?   |
| 54 | Today it is a Monday, what day of the week is it 1982 days from now?  |
| 55 | What percent of number less than 100 are divisible by 6?  |
| 56 | What is the area of a triangle with side lengths 6, 8, and 10?  |
| 57 | What is the volume of a cylinder with height 8 and radius 4?  |
| 58 | How many ways are there to arrange the letters in the word "NEEWPRT" such that the E's are not next to each other?  |
| 59 | How many prime number questions are in this speed math test?  |
| 60 | How many distinct factors does 99 have?   |

