

WSMC First Round State Knowdown 2010

"I will read the question twice then you will have 10 seconds to answer and your last answer given in the ten seconds will be the accepted one. If the answer is incorrect you will be asked to turn in your nametag and leave the competition. Any questions? Let's begin."

1	What is the slope of the line perpendicular to $y=2x-1$?	$-1/2$
2	If restricted to real numbers, what is the domain of $y=\sqrt{x-2}$?	Reals ≥ 2
3	What is the probability of tossing two fair six sided dice and getting sum of 11?	$2/36$ or $1/18$
4	How many significant digits in 12.010	5
5	A right triangle has legs of $\sqrt{5}$ and $\sqrt{20}$. What is the length of the hypotenuse?	5
6	If the half-life of a substance is 10 hours, how many hours will it take for $7/8$ of the original amount to be expended?	30
7	What is the slope of the line $3x+5y-6=4$?	$-3/5$
8	If 3 boxes of cereal costs \$10, how much to the nearest penny is 5 boxes?	\$16.67
9	The exact perimeter of a circle is $16\pi^2$. What is the radius?	8π
10	In a triangle with two sides of 4 and 15, what are the restrictions on the length of the third side?	Between 11 and 19
11	What is the probability of tossing a fair coin 3 times and not getting three of a kind?	$3/4$

12	An item increases in value by 200% and then decreases by 50%, what percentage of the original value is it now?	150%
13	What is the slope between (-4, -14) and (-14, -4)?	-1
14	Solve $3x^2 - 19 = 56$.	5 or -5
15	What are the coordinates of the vertex of a parabola whose equation is $y = (x-3)^2 - 3$?	(3, -3)
16	The lengths of the sides of a triangle are $\sqrt{2}$, $\sqrt{2}$ and 2, what is the smallest angle in degrees?	45
17	What is the slope of the line that has the equation $2y=3-y+x$?	1/3
18	Simplify $(3x+12)/(x+4)$.	3
19	How many feet are in a half of a mile?	2640
20	What is the sum of the interior angles of a hexagon?	720
21	The probability of an unfair coin landing heads up is 0.3. What is the probability of getting three heads in three tosses?	0.027
22	What is the equation of the center-line or axis of symmetry of the parabola with the equation $y=(x-2)(x+6)$?	$x=-2$
23	What is the x intercept for the line with the equation $5y=2x-10$?	5 or (5, 0)
24	Sonja runs twice as fast as she walks, roller blades twice as fast as she runs, and bicycles twice as fast as she roller blades. If she bikes at 20 mph, how fast does she walk?	2.5 mph
25	Simplify $3\sqrt{75}$	$15\sqrt{3}$

26	Solve $(x+3)(2x-4)=0$.	$X=2$ or -3
27	An item priced at \$60 is marked down 20%. What is the new price?	\$48

WSMC Second Round State Knowdown 2010

"The second round will consist of five questions. In this round I will read the question and all of you will write and circle your final answer on the paper in front of you. You will have 15 seconds to answer and I will count down the final three seconds; 3, 2, 1, 0. When I say zero your pencil must be on the desk in front of you or you will be disqualified. After the five questions are scored the Are there any questions? Let's begin."

1	A traffic light is red for 3 minutes and green for three minutes. If traffic doesn't cause additional delays, what is the average wait time in minutes?	0.75
2	Solve $ x-2 > x-8 $	$x > 5$
3	Rounded to the nearest degree, what is the measure of the largest possible angle in an obtuse triangle?	180
4	Two similar three-dimensional figures have surface areas of 7 and 63. What is the ratio of the volumes?	1:27 or 27:1
5	What is the greatest common factor of 70 and 5005	35

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"I will place the question on the overhead and you will have 20 seconds to write your answer on your paper. I (we) will count down the last three seconds as in round two and then collect your papers. Again if your pencil is not down by the count of zero your answer will not be accepted. You will be able to use an SAT approved calculator on this section. Are there any questions? Let's begin."

Answers to round three:

Describe the transformation where (x, y) is mapped to $(x, y-2)$.	Down 2
If $f(x)$ is defined over the real numbers, what is it's range if: $f(x) = 2x^2 + 5x - 7$	Reals \geq -10.125
A uniform cube has two sides that at blue and the rest are green. What is the probability of rolling the cube three times and getting blue only one of the times?	4/9