

WSMC First Round Knowdown 2003

"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. Are there any questions? Let's begin."

1.	In a bag containing 8 marbles, where 2 are white and 1 is red, what is the probability of drawing a non-white?	$\frac{3}{4}$
2.	Solve for x in $7-4x=-9$	4
3.	A right triangle has a leg of 4 and a hypotenuse 29. What is the length of the other leg?	5
4.	Evaluate $y^2 - 4x$ when $x=-\frac{1}{2}$ and $y = 2$.	6
5.	Evaluate $\frac{5}{6}$ divided by $\frac{1}{3}$ multiplied by 2.	5
6.	Find the slope between the points (0, -2) and (-2, 2).	-2
7.	What is the probability of rolling a regular fair six sided die three times and each roll being a multiple of 2?	$\frac{1}{8}$
8.	Give the decimal form of -18 plus $\frac{1}{4}$.	-17.25
9.	Give the prime factorization of 98?	$2(7)^2$
10.	What is the x intercept for the graph of $3y-5x=1$?	$-\frac{1}{5}$
11.	Find 21% of 110.	23.1
12.	9 cubic feet contains how many cubic yards?	$\frac{1}{3}$

13.	Evaluate and simplify $-3/4$ divided by $1/8$.	-6
14.	Find the cube root of -0.008.	-0.2
15.	Evaluate $5x^3y$ when $x = -3$ and $y = 1/9$.	-15
16.	What is the median of 1, 2, 3, 7, 8, and 9?	5
17.	If a circle has an area of $9\pi/4$, what is the diameter?	3
18.	What is the surface area of a cube with a volume of eight?	24
19.	Evaluate $(8 - 2)^2$	128
20.	Evaluate 4^3 divided by 2^4	4
21.	If $F(x) = (3x - 1)/x$, find $F(2)$	2.5
22.	Find the slope of the line through (4,2) and (2,8)	-3
23.	Evaluate (18) divided (6/5)	15
24.	Solve for x in $x^2 - 2x + 1 = 0$	1
25.	Find the slope of the line with the equation $4x - 6y = 5$.	$4/6$ or $2/3$
26.	How much more than 300 is 250% of 300?	450
27.	If $F(x) = x - x^2 $ find $F(-3)$	12
28.	Evaluate $3/4 - 2/3$	$1/12$
29.	Solve for x in $12 - x > 21$	$x < -9$
30.	Find the y intercept for the line whose equation is	-3.5 or (0,-3.5)

	$7x = 10y + 35.$	
31.	Find the diagonal of a rectangle with sides of 2 and 3.	13
32.	Find the arithmetic mean of 1, 2, 3, 4, 5, and 6.	3.5
33.	Find the least common multiple of 4, 6, and 7?	84
34.	If two regular fair six sided dice are rolled, what is the theoretical mode of the sum of the dice?	7

WSMC Regional Second Round Knowdown 2003

"The second round will consist of five questions. In this round I will read the question and all of you will write your final answer on the pad of 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. Before each question, put your name at the top of the piece of paper. I (we) will collect the papers after each question and those persons with the correct answers will continue. I will collect the nametags for those that are eliminated. Are there any questions? Let's begin."

1	What is the ratio of the volume of a sphere to the volume of the cylinder that the sphere just fits inside?	$\frac{2}{3}$
2	What is the sum of $\frac{3}{2} + \frac{1}{2} + \frac{3}{8} + \frac{3}{16} + \frac{3}{32} + \dots$?	3
3	If $f(x)=x+2$ and $g(x)=x^3$, what is $g(f(2))$?	64
4	How many ways are there to pick a team of 3 from a group of 6?	20
5	Find the equation of a parabola that passes through (0, 2), (1, 3), and (-1, 3).	$y=x^2+2$

WSMC Regional

Third Round Knowdown 2003

"I will place the question on the overhead and you will have 20 seconds to

write and circle your answer on your paper. I (we) will count down the last three seconds as in round two and then collect your papers. 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."

If the ratio of the heights of two similar three dimensional objects is 9:4 then what is the ratio of the surface areas?

Find the equation of the line through $(-1, 7)$ perpendicular to $2x-3y=12$.