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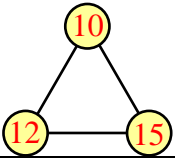
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2004 IMSO Answers

SHORT ANSWER

1.	156	2.	120	3.	17	4.	math	5.	4	-3	2
									-1	1	3
									0	5	-2
6.	10	7.	12000	8.	60	9.		10.	<i>H-A-F-E</i>		
11.	70	12.	11	13.	764	14.	06:55	15.	$432+657=1089,$ $452+637=1089,$ $423+675=1098,$ $437+589=1026,$ $324+765=1089.$		
16.	S	17.	20	18.	36	19.	124	20.	69999		
21.	56	22.	8652	23.	33	24.	8	25.	$\frac{\pi}{1024}$ or $\frac{157}{51200}$		

ESSAY PROBLEMS

1.	40	2.	9	3.	105	4.	15		
5.	120	6.	100	7.	156	8.	6		
9.	700	10.	A	11.	66	12.	300	13.	4

EXPLORATION PROBLEMS

1.	<p>(a) There are 21 blue triangles and 15 yellow triangles.</p> <p>(b) There are 55 blue triangles and 45 yellow triangles.</p> <p>(c) There are 210 blue triangles and 190 yellow triangles.</p>	2.	<p>(a) <i>BHGD</i> (or its variants) and <i>AIHD</i> (or its variants).</p> <p>(b) <i>AFIG, ACFG, ACIH, ACHG, ACID, CIGD, and ABIG.</i></p> <p>(c) 28</p>
3.	<p>(a) There are 196 ways.</p> <p>(b) There are 168 ways.</p> <p>(c) There are 168 ways.</p>	4.	<p>(a) We can find 7 squares.</p> <p>(b) We can find 9 squares.</p> <p>(c) We can find 16 squares.</p> <p>(d) We can find 23 squares.</p>
5.	<p>The length of the longest possible route is $30 \times 20 + 50 \times 20 = 1600$ m.</p>	6.	<p>The length of the sides of the cube is 8 cm.</p>