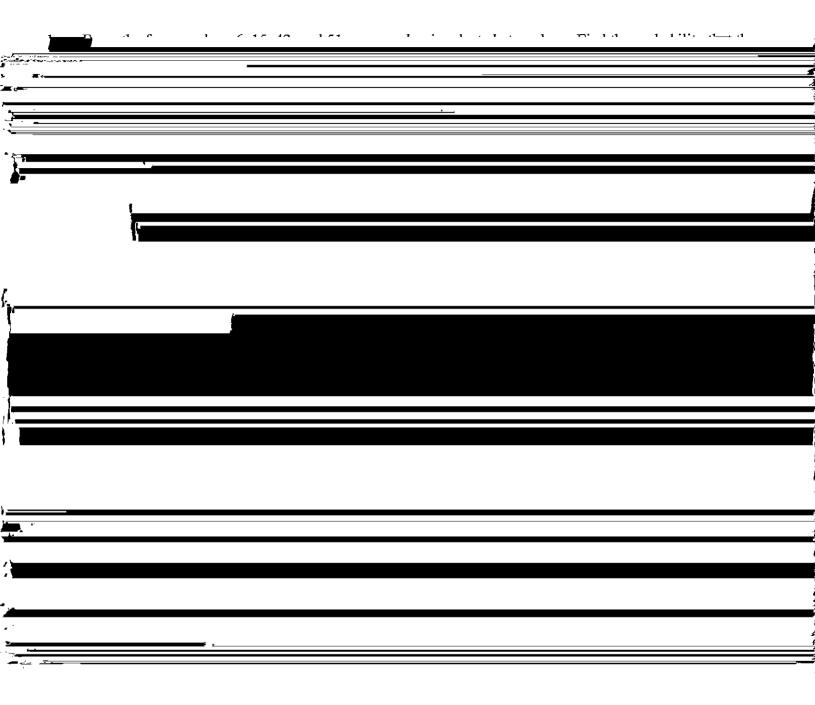
2012 John O'Bryan Mathematical Competition Questions for the Two-Person Speed Event



number selected has exactly two prime positive factors. Express your answer as a common fraction reduced to lowest terms.

- 2. Eight times an odd integer x is 33 more than the next largest odd integer. A rectangle has perimeter 64 and the longer side is 4 units greater than the shorter side. Find the sum of x and the length of one of the shorter sides of the rectangle.
- 3. For all real numbers a and b, let $a \otimes b = (a-5)(b+3)$. Let k be the number of sides of a convex polygon where sum of the decree measures of its interior angles is 2160. Find the value of $(7 \otimes 20) \pm k$

2012 John O'Bryan Mathematical Competition Answers for the Two-Person Speed Event Note: All answers must be written levibly and in simplest form. Exact answers are to be given unless otherwise specified in the question. No units of measurement are required. Each problem has the	Name:	ANSWERS	Team Code:
Answers for the Two-Person Speed Event Note: All answers must be written leably and in simplest form. Exact answers are to be given unless otherwise specified in the question. No units of measurement are required. Each problem has the		2012 John O'Bryan N	Nathematical Competition
otherwise specified in the question. No units of measurement are required. Each problem has the		_	
otherwise specified in the question. No units of measurement are required. Each problem has the	Note: All and	wers must be written legibly and in	n simplest form - Exact answers are to be given unle
otherwise specified in the question. No units of measurement are required. Each problem has the	3 (<u>Ro. Sara</u> u)	MELY HULE 10: HIJJHAF HAZIMA AND O	Tandinist no in the second sec
otherwise specified in the question. No units of measurement are required. Each problem has the			
otherwise specified in the question. No units of measurement are required. Each problem has the			
otherwise specified in the question. No units of measurement are required. Each problem has the			
			-
	£•	4	
	otherw	ise specified in the question. No uni	ts of measurement are required. Each problem has the