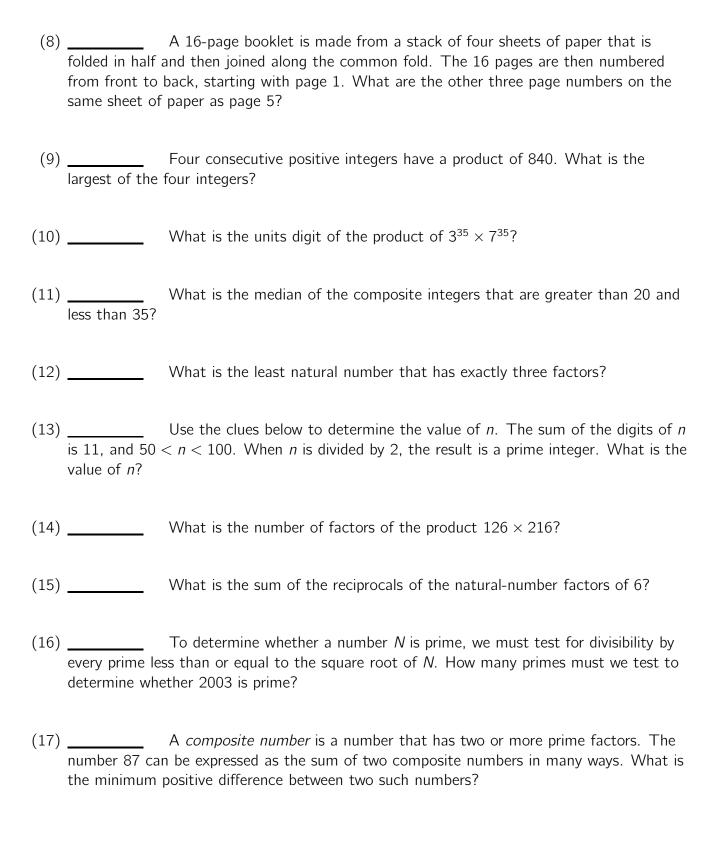
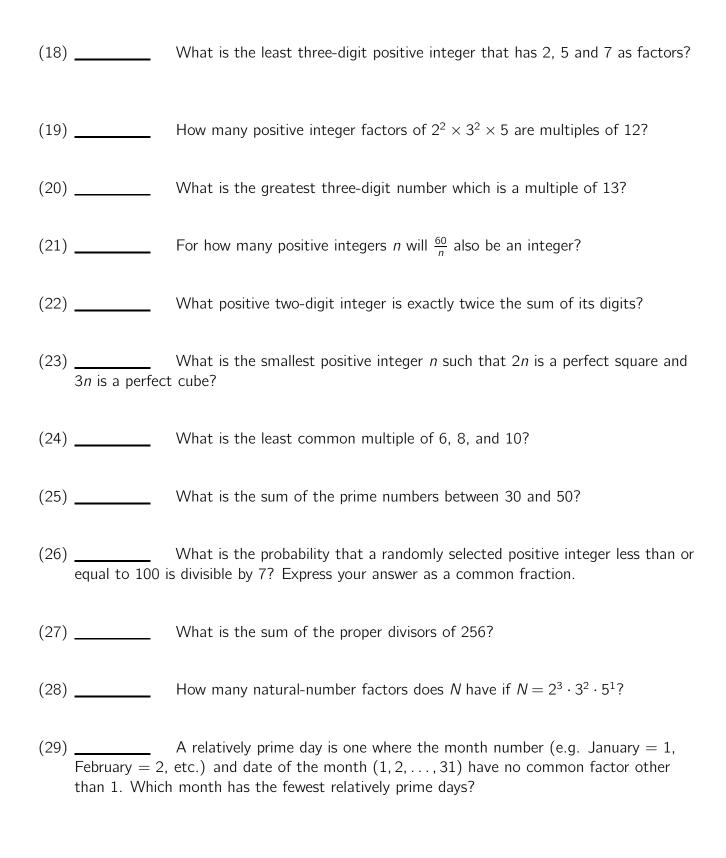
## Number Theory 3A1

	Name
(1)	A whole number, $N$ , is chosen so that $\frac{N}{3}$ is strictly between 7.5 and 8. What is the value of $N$ ?
(2)	What fraction of the one-digit positive integers is prime? Express your answer as a common fraction.
(3)	What is the greatest three-digit multiple of 19?
(4)	What is the positive difference between the greatest and least prime factors of 2000?
(5)	The game of Ibish is played in rounds. In the first round, you earn 0, 10 or 11 points; in the second round, you earn 0, 10, 11 or 12 points; in the third round, you earn 0, 10, 11, 12 or 13 points, and so on, including the next greatest integer in the possible point values. What is the fewest number of rounds after which your total score can have a 9 in the units digit?
(6)	What is the median of all values defined by the expression $2^x - 1$ , where $x$ is a prime number between 0 and 20?
(7)	What is the greatest three-digit multiple of 33 that can be written using three different digits?





(30)	Wha	t is the least	whole number	that is divi	sible by 7,	but leaves	a remainder
	of 1 when divided b	y any integer	2 through 6?				