



## Algebra & Operations 5th/6th

1	Compute the expression in improper fraction form: $\frac{10}{3} + \frac{3}{15}$
2	The Newport farm raises both two-footed chickens and four-footed cows. If there are 10 heads and 28 feet in total, how many chickens are there?
3	John is currently five times as old as Luke. In six years, Luke will be half the age of John. How old is John right now?
4	I had some jellybeans. I ate five and gave half of what was left to Sally. I then gave a third of what was left to Harry. Afterwards, I split the rest evenly among myself and two other friends. I ended up with six jellybeans. How many did I start with?
5	Find the sum of the sequence: $3 + 6 + 9 + \dots + 30$
6	Three consecutive odd integers add up to 309. What is the largest integer?
7	Sean is reading <i>How to Get a Girlfriend</i> , a hefty book of 900 pages, from start to finish. Then, a magic fairy comes and adds 8 to every odd page number, and divides every even page number by 2. When Sean gets to the page labeled "133" for the first time, what is the page number of the next page?
8	It takes Alex 2 hours to mow the golf course. It takes Bill 3 hours, and Carl 6 hours. If Alex, Bill, and Carl all worked together, how long would it take, in hours, for them to mow the golf course?
9	A function $F(x)$ is defined as follows. $F(a+b) = F(a) + F(b) + c$ , where $a$ and $b$ are any real integers. If $F(1) = 7$ and $F(0) = -1$ , what is $F(5)$ ?
10	What is the sum of $a$ , $b$ , $c$ , and $d$ ? $2a + b + 2c + 3d = 7$ $10a + 6b + 6c + 10d = 24$ $5a + 3b + 4c + 6d = 25$