



Knights of Pi Math Tournament – Jan. 7, 2017

Algebra & Operations 5th/6th

1	Evaluate: $1385 + 47$
2	Both Sai and I have some money. If Sai gives me 4 dollars then we both have 10 dollars. How much do I have to give Sai in order for him to have 3 times as much as I do?
3	In 3 years, John's father will be 3 times as old as John. But 2 years earlier John's father was 4 times as old. How old is John now?
4	Evaluate $3 + 5 + 7 + 9 + \dots + 99$
5	If I can trade 1 wheel with 4 seals and 1 meal with 5 seals, how many wheels do I need to trade 24 meals?
6	Tom can finish a project in 5 hours working alone while Jerry only needs 3 hours to finish the same project. How many hours in total does it take when Tom first works alone for an hour and then Jerry joins in till the end? Express your answer as a reduced fraction.
7	A function h is defined as $h(x) = 3x^2 - 7x - 5$. Find $h(x - 2)$.
8	I bought 6 seals and 5 wheels and paid 455 dollars while a wheel cost 25 dollars more than a seal. How much did one wheel cost?
9	Find all zeroes of $y = x^2 - 7x + 10$
10	What is the smallest number that, when divided by 11 the remainder is 1, divided by 13 the remainder is 3, and divided by 15 the remainder is 13?