

Name _____



TEST # **2**

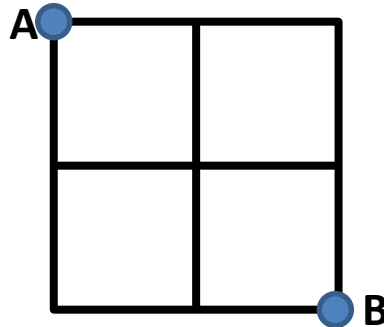
February 2017 Rookie Level

1) $(2016 + 2017) - (1998 + 1999) =$

2) Candy A costs \$6.00 a box. Candy B is \$15.00 a box. How many boxes of Candy A are equal 10 boxes of Candy B?

3) In February Jason put some money in his bank account. Starting in March he put in \$13 at the beginning of each month. On his birthday he put in an extra \$85. By December 31st he had \$325 in his account. How much money did Jason put in the bank to start with in February?

4) Following the lines, how many possible paths (without back tracking) are there from Point A to Point B?



5) How many three-digit numbers can be made using 1, 2, 3, and 4 if you cannot repeat any of these numbers in the three-digit number?

6) At the zoo, there are three times as many monkeys as birds. There are also three zebras for every five monkeys. What is the smallest number of birds possible that could be at the zoo?

February 2017 Rookie Level Answers

1) $(2016 + 2017) - (1998 + 1999) =$

36

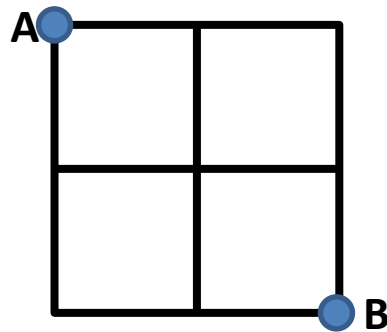
2) Candy A costs \$6.00 a box. Candy B is \$15.00 a box. How many boxes of Candy A are equal 10 boxes of Candy B?

25

3) In February Jason put some money in his bank account. Starting in March he put in \$13 at the beginning of each month. On his birthday he put in an extra \$85. By December 31st he had \$325 in his account. How much money did Jason put in the bank to start with in February?

110

4) Following the lines, how many possible paths (without back tracking) are there from Point A to Point B?



6

5) How many three-digit numbers can be made using 1, 2, 3, and 4 if you cannot repeat any of these numbers in the three-digit number?

24

6) At the zoo, there are three times as many monkeys as birds. There are also three zebras for every five monkeys. What is the smallest number of birds possible that could be at the zoo?

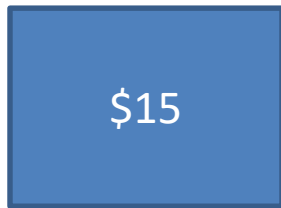
5

February 2017 Rookie Level Solutions

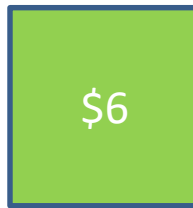
1) $(2016 + 2017) - (1998 + 1999) = 4033 - 3997 = 36$

36

2) To find out how many boxes of Candy A are equal 10 boxes of Candy B first find out how much 10 boxes of Candy B would cost and divide that by what the cost of Candy A \$6.00. Candy B is \$15.00 a box so 10 boxes is $\$15 \times 10 = \150 . Now $\$150 \div \$6 = 25$ boxes.



$$\$15 \times 10 = \$150$$



$$\$150 \div \$6 = 25 \text{ boxes}$$

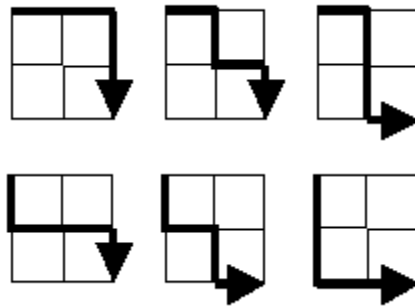
25

3) In February Jason put some money in his bank account. After that he put in \$13 at the beginning of each month. So count up the months from March through December and there are 10 months. Ten times \$13 = \$130. On his birthday he put in an extra \$85. So $\$130 + \$85 = \$215$. By December 31st he had \$325 in his account. Subtract the money he put in all year \$215 and you will end up with the amount of money he first put in the bank in February. $\$325 - \$215 = \$110$

110

February 2017 Rookie Level Solutions

4) Draw out the pattern and keep track of the directions you took so that you don't repeat yourself. Try to stick to a consistent method, such as going across the top and getting all of the paths that way, then moving to the middle and getting all the paths that way, and then finally to the bottom line. There are 6 separate paths.


6

5) Make an organized list. Start with 1 and make the numbers in order that can be made and do the same for each column. There are 6 numbers that can be made that begin with each number for a total of 24 numbers.

Numbers beginning with 1	Numbers beginning with 2	Numbers beginning with 3	Numbers beginning with 4
123	213	312	412
124	214	314	413
132	231	321	421
134	234	324	423
142	241	341	431
143	243	342	432

24

6) Make a chart to keep up with the requirements. There are three times as many monkeys as birds. There are also three zebras for every five monkeys. The number of monkeys is a multiple of 5. Since there are three times as many monkeys as birds, the first multiple of 5 that can be three times as much is 15. Since there is a ratio of 5 to 3 for monkeys to zebras 15:9 is a 5:3 ratio. The smallest number of birds possible at the zoo is 3.

Monkeys	Zebras	Birds
5	3	not possible
10	6	not possible
15	9	3

5