Are you ready for Beast Academy 2A?

Before beginning Beast Academy 2A, a student should be able to count beyond 100 by 1's, 5's, and 10's.

The student should also know basic shapes, be able to add and subtract numbers from 1 to 20, and be able to solve simple word problems.

A student ready for Beast Academy 2A should be able to answer at least 13 of the 17 problems below correctly.

Step 1. The student should try to answer every question without a calculator and without help.

Step 2. Check the student's answers using the solutions at the end of this document.

Step 3. The student should be given a second chance on problems answered incorrectly.

Fill the blanks to complete each counting pattern below.

1. 1, 2, 3, 4, ____, ____, ____, 8, ____, ____, ____

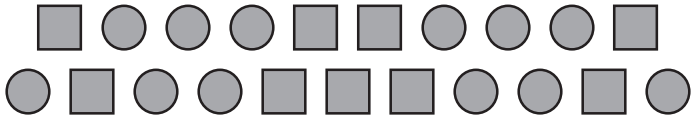
2. ____, ____, ____, 22, 23, ____, 25, 26, ____, ____, 29, ____

3. 10, 20, 30, ____, 50, 60, ____, ____, ____, 100

4. 5, 10, 15, 20, ____, ____, ____, ____, ____, 50

5. ____, ____, 75, 80, 85, ____, 95, _____

Answer each question about the shapes shown below.



6. How many circles are there? **6.** _____

7. How many ***more*** circles are there than squares? **7.** _____

Are you ready for Beast Academy 2A?

Fill the blanks in each problem below.

8. $2+7=$_____

9. $8+12=$_____

10. $4+$_____$=11$

11. $9-6=$_____

12. $17-8=$_____

13. _____$-13=6$

Solve each problem below.

14. Mike puts 6 pennies in an empty jar. Nelly puts 7 more pennies in the jar. Orson takes all of the pennies out of the jar. How many pennies does Orson take?

14. _____

15. There are 3 boys and 6 girls in Mr. Hai's class. How many pencils are needed to give each student in Mr. Hai's class two pencils?

15. _____

16. Fill each blank with the ***same number*** in the addition problem below.

_____$+$_____$+$_____$=18$

17. Fill the empty squares below so that the numbers in each row (left to right) and each column (top to bottom) add up to 20.

8		4
5		
		11

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Solutions

1. Counting by ones, we have

1, 2, 3, 4, **5**, **6**, **7**, 8, **9**, **10**, **11**.

2. Counting by ones, we have

19, **20**, **21**, 22, 23, **24**, 25, 26, **27**, **28**, 29, **30**.

3. Counting by tens, we have

10, 20, 30, **40**, 50, 60, **70**, **80**, **90**, 100.

4. Counting by fives, we have

5, 10, 15, 20, **25**, **30**, **35**, **40**, **45**, 50.

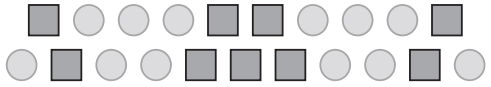
5. Counting by fives, we have

65, **70**, 75, 80, 85, **90**, 95, **100**.

6. We see two groups of 5 circles, plus a circle at each end.

Two groups of 5 is 10, and plus 2 more is 12. So, there are **12** circles.

7. In the previous problem, we counted 12 circles. We also count 9 squares.



So, there are $12-9=$ **3** more circles than squares.

8. $2+7=$ **9**.

9. $8+12=$ **20**.

10. $4+$ **7** $=11$.

11. $9-6=$ **3**.

12. $17-8=$ **9**.

13. **19** $-13=6$.

14. Together, Mike and Nelly put $6+7=13$ pennies into the jar. Orson takes all of the pennies. So, Orson takes **13** pennies.

15. All together, there are $3+6=9$ students in Mr. Hai's class. Each of the 9 students gets 2 pencils. So, we add nine 2's to get the total number of pencils needed:

$2+2+2+2+2+2+2+2+2=$ **18**.

— ***or*** —

Adding nine 2's is the same as adding two 9's. So, $9+9=$ **18** pencils are needed.

16. We start by trying a number that is easy to add, such as 5. Adding three 5's gives

$5+5+5=15$.

15 is too small, so we try adding a larger number. Adding three 6's gives

$6+6+6=18$.

This is the correct result! So, we fill each blank with **6**.

17. In the top row, we have 8 and 4. We know $8+4=12$. Since $12+\underline{8}=20$, the missing number in the top row is 8.

8	**8**	4
5		
		11

In the left column, we have 8 and 5. We know $8+5=13$. Since $13+\underline{7}=20$, the missing number in the left column is 7.

8	**8**	4
5		
7		11

In the bottom row, we have 7 and 11. We know $7+11=18$. Since $18+\underline{2}=20$, the missing number in the bottom row is 2.

8	**8**	4
5		
7	**2**	11

In the middle column, we have 8 and 2. We know $8+2=10$. Since $10+\underline{10}=20$, the missing number in the middle column is 10.

8	**8**	4
5	**10**	
7	**2**	11

In the middle row, we have 5 and 10. We know $5+10=15$. Since $15+\underline{5}=20$, the missing number in the middle row is 5.

8	**8**	4
5	**10**	**5**
7	**2**	11