Are you ready for Beast Academy 2B?

Before beginning Beast Academy 2B, students should be fluent with place value, number lines, and the comparison symbols < and >.

Students should also be able to add 2-digit and 3-digit numbers without stacking by using place value or other mental strategies.

A student ready for Beast Academy 2B should be able to answer at least 14 of the 18 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.

1. Circle every number below whose ones digit is larger than its hundreds digit.

675 567 756 576 765 657

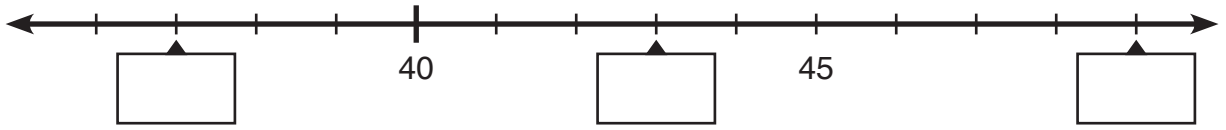
Fill in the blanks to complete the statements below.

2. 4 tens and 13 ones is the same as 5 tens and _____ ones.

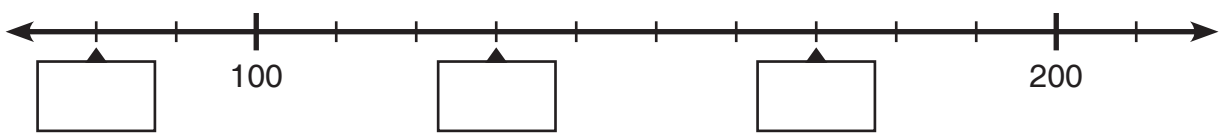
3. 34 tens is the same as _____ hundreds and 4 tens.

Label the missing numbers on each number line below.

4.



5.



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Fill each circle below with < or >.

6. 87 ◯ 78 **7.** 60+6 ◯ 70−7 **8.** 29 ones ◯ 3 tens

Fill in the blanks to complete each sum below.

9. 43+56 = _____ **10.** 215+340 = _____ **11.** 27+44 = _____

12. 397+65 = _____ **13.** 626+99 = _____ **14.** 444+ _____ = 876

Solve each problem below.

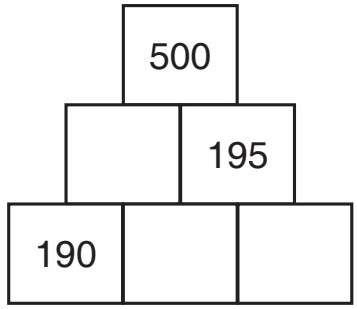
15. What is the sum of every whole number from 21 to 29? **15.** _____

16. Juan doubles a number, then doubles the result and gets 140. What number did Juan start with? **16.** _____

17. Fill each blank below with a number using only the digits 5 and 8.

55 < _____ < 85 < 88 < _____ < 558 < _____ < _____ < 855

18. In the Sum Pyramid below, each block contains the sum of the two numbers below it. Fill each empty block with the correct number.



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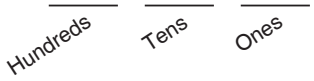
Solutions

1. For any three-digit number, the hundreds digit is the leftmost digit, followed by the tens digit, then the ones digit.

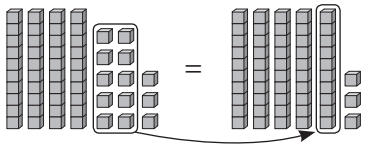


We circle each number below whose ones digit is larger than its hundreds digit.

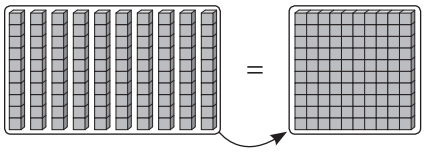
675 (567) 756 (576) 765 (657)

2. We can regroup 13 ones to make 1 ten and 3 ones.

So, 4 tens and 13 ones is the same as 5 tens and **3** ones.



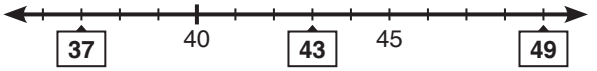
3. We can regroup 10 tens to make 1 hundred.



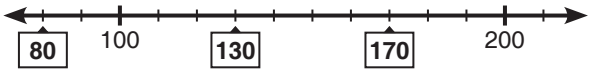
Since $34 = \underline{10}+\underline{10}+\underline{10}+4$, we can regroup 34 tens to make 3 hundreds, with 4 tens left over.

So, 34 tens is the same as **3** hundreds and 4 tens.

4. The tick marks on this number line count by ones. So, we label the missing numbers as shown.



5. The tick marks on this number line count by tens. So, we label the missing numbers as shown.



6. 87 is greater than 78. So, we fill the circle as shown.

$$87 \ (>) \ 78$$

7. $60+6=66$ and $70-7=63$. Since 66 is greater than 63, we fill the circle as shown.

$$60+6 \ (>) \ 70-7$$

8. 29 ones is the same as 29, and 3 tens is the same as 30. Since 29 is less than 30, we fill the circle as shown.

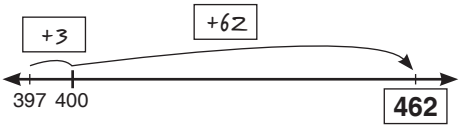
$$29 \text{ ones} \ (<) \ 3 \text{ tens}$$

9. $43+56=$ **99**.

10. $215+340=$ **555**.

11. $27+44=$ **71**.

12. $397+65$ is the same as $397+3+62$.



So, $397+65=$ **462**.

13. Adding 99 is the same as adding 100, then taking away 1. So, $626+99=626+100-1$.

$626+100=726$ and $726-1=725$.
So, $626+99=$ **725**.

14. To get from 444 to 876, we need to add 4 hundreds, 3 tens, and 2 ones.

So, we have $444+$ **432** $=876$.

15. We can add numbers in any order. So, adding 21 through 29 is easiest if we pair numbers whose sum is 50. We can make 4 of these pairs.

$$21+29=50$$
$$22+28=50$$
$$23+27=50$$
$$24+26=50$$

25 is the only number we didn't pair with another number. So, the sum of every whole number from 21 to 29 is the same as the sum of four 50's and one 25.

$$50+50+50+50+25$$

We add these numbers to get **225**.

16. Since $70+70=140$, the number we double to get 140 is 70. Since $35+35=70$, the number we double to get 70 is 35.

Doubling 35, then doubling the result gives 140.
So, the number Juan started with is **35**.

17. We fill the blanks as shown below.

$$55 < \underline{\mathbf{58}} < 85 < 88 < \underline{\mathbf{555}} < 558 < \underline{\mathbf{585}} < \underline{\mathbf{588}} < 855$$

18. In the middle-left block, we have $\boxed{\mathbf{305}}+195=500$.

In the bottom-middle block, we have $190+\boxed{\mathbf{115}}=\boxed{305}$.

In the bottom-right block, we have $\boxed{115}+\boxed{\mathbf{80}}=195$.