Project Bright IDEA-2

Mathematics Problem-Based Questionnaire

Dear third grade student:

- There are 23 math problems in this questionnaire.
- Some problems are easy and some more difficult.
- Try your best to solve each problem.
- Write your answer and explain it (show all your work).
- Your solutions will help your teacher help you in mathematics.
- If you cannot solve a problem, then write “I don’t know.”
- Write the date, your name, your teacher, and your school.

Thank you – and enjoy the challenge!

Date: _____ Student Name: _____

Teacher: _____ School: _____

Question 1

The number 25 comes 1 before 26.

The number 32 comes 3 before 35.

What number comes 4 before 60? Explain.

Question 2

What is the smallest 2-digit number? Explain.

Question 3

3a) What number comes 10 after 99? Explain.

3b) What number comes 9 after 999? Explain.

Question 4

Which is **smaller** (circle the answer and explain below):

a. The difference between 99 and 92

b. The difference between 25 and 11

Question 5

James has 297 pennies. Donna has 305 pennies.

5a) Circle the name of the child who has more pennies:

James Donna

Explain:

5b) How many more pennies does this child have than the other child? Explain.

5c) Suggest at least **two (2) different ways** to add or take pennies so each child has the same number of pennies.
Show and explain your answer below.

Question 6

Solve and explain/show how you found the solution:

6a) 67 + 5 =

6b) 600+ 100 =

6c) 110 – 40 =

6d) 6 X 4 =

6e) 1 X 5 =

Question 7

Tanisha loves rope jumping.

Every day she jumps 400 times altogether, some in the morning and some in the evening.

In the morning of April 30, Tanisha jumped 278 times.

How many more times did she jump in the evening of April 30?

Explain.

Question 8

8a) Write the number that has 6 Tens, 3 Ones, and 5 Hundreds.

8b) What is a number that is the same as ten tens? Explain.

8c) Show and explain **two (2) different ways** to find what will be the **"Tens"** digit for the problem:

627 - 40 = ?

Question 9

Complete the missing numbers in each sequence below.

Below each answer explain how you reached your decisions.

9a) 37, 38, ____, ____, ____, 42, 43

9b) 52, 62, 72, 82, ____, ____, ____

9c) 223, 218, 213, 208, ____, ____, ____

9d) ____, ____, 980, 970, 960, ____, 940

9e) ____, 630, 640, 650, ____, ____, 680

Question 10

Naomi likes to play a guessing game: She guesses the result of flipping a coin, then flips it and sees if she was correct.

She knows that in each flip there is exactly the same chance of getting a “Head” or a “Tail.”

One day, she began playing, flipped 4 times, and got:

1) Head
2) Head
3) Head
4) Head

What do you suggest for her to guess in the next flip? Explain.

Question 11

For his birthday, Pedro received a few cats and a few parrots.

A cat has 4 legs and a parrot has 2 legs.

One day, 5 months after his birthday, Pedro counted 16 legs.

11a) How many cats and parrots might he have counted?
(There is more than one answer – find at least 3.)

11b) How many different combinations of cats and parrots can be found for 16 legs?

Question 12

At the water park there are two slides.

The “Loop Slide” is 65 feet high.

The “Tower Slide” is 28 feet high.

How much shorter is the “Tower Slide?” Explain.

Question 13

There are 264 children at a school.

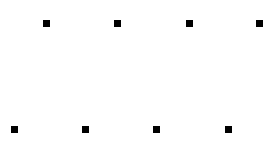
How many teams of 10 could you make with these 264 children?

Explain.

Question 14

Draw a line around **1/4** of the dots below.

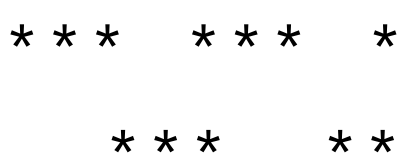
Explain how you decided which ones to circle.



Question 15

Draw a line around **1/2** of the stars below.

Explain how you decided which ones to circle.



Question 16

Morgan has 517 pennies in her saving box.

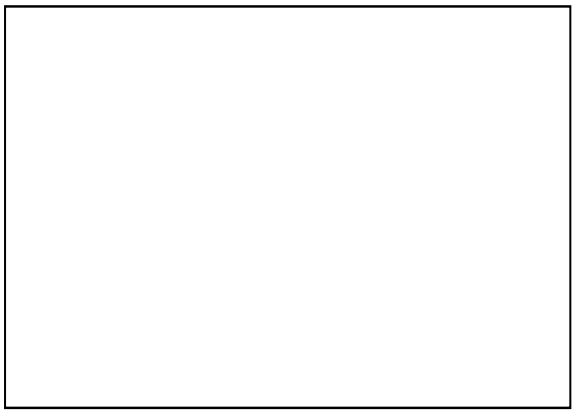
She wants to put them ten pennies in each bag.

How many bags can she fill? Explain.

Question 17

Sean puts cards like this  in his card album.

If one page in his album looks like this,



How many cards does he need to cover one page? Explain.

Question 18

Miguel and Tara counted their marble collections.

Miguel has 23 bags of ten marbles and 13 left over.

Tara has 17 bags of ten marbles and 8 left over.

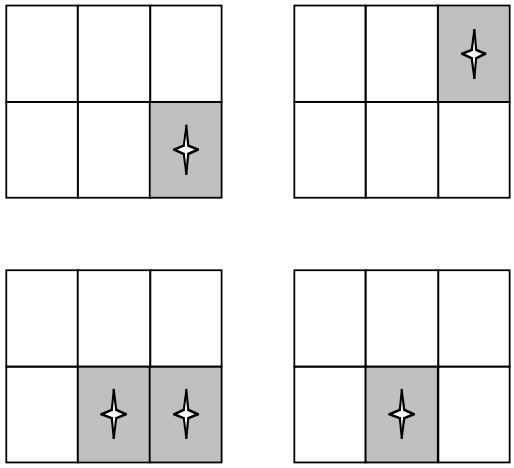
If they put their marbles together how many marbles will there be?

Question 19

Jonah baked 4 cakes for a party.

Each cake has the same size and is cut into 6 equal pieces.

After the party, he had the shaded parts left.



If Jonah puts the leftovers together, what fraction of a whole cake will he have? Explain.

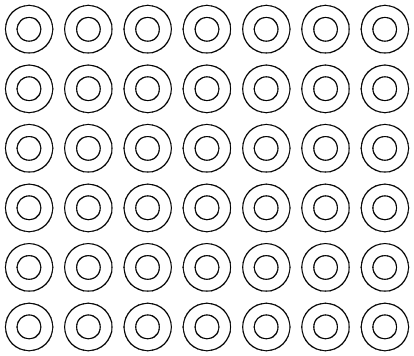
Question 20

Rachel invited three friends to her birthday.

Rachel’s friends know she loves to play tennis.

Each friend brought her the same number of tennis balls.

How many tennis balls did each friend bring? Explain.



Question 21

The Briar family collects bottles for recycling.

In October they collected 143 bottles.

In November they collected 321 bottles.

In December they collected 712 bottles.

ABOUT how many bottles did they collect from the beginning of October to the end of December?

CIRCLE your answer and explain how you found it.

a. Less than 650 bottles

b. Between 650 and 750 bottles

c. Between 750 and 850 bottles

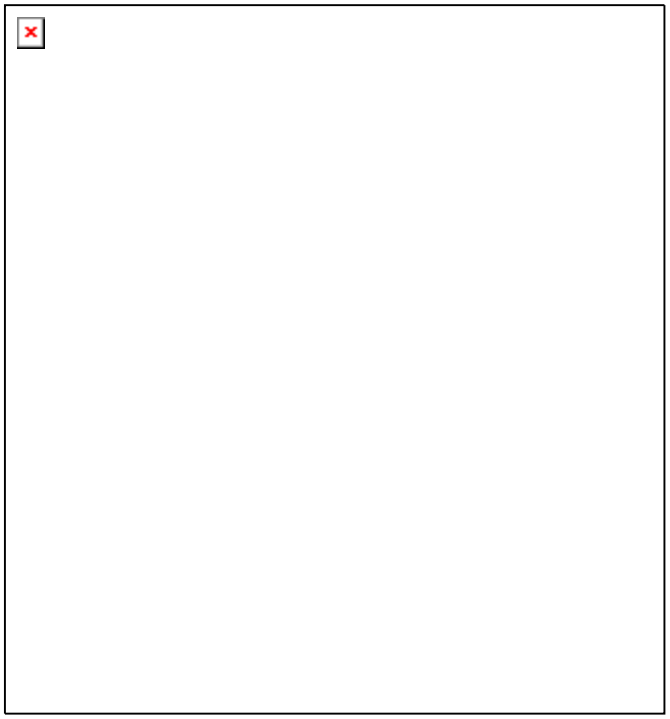
d. More than 850 bottles

Question 22

Mrs. Dunn took a survey.

She asked her class which colors they liked.

Below are the results of what she found.



22a. How many students like Red? Please write their names.

22b. How many students like both Blue and Green? Please write their names.

Question 23

Here are five different numbers, not in any order:

561 187 543 178 420

23a. Write these numbers in the correct order (from large to small).

23b. Explain how you decided which number is the largest.