# BELMONT RUNYON ELEMENTARY SCHOOL

## JUNE 2017

## SUMMER MATH PACKET

## STUDENTS ENTERING GRADE 8

NAME:_____

Name : _____ Score : _____

Teacher : _____ Date : _____

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| | | | |
|---|---|---|---|
| 60 x 92 | 55 x 82 | 59 x 57 | 68 x 82 |
| 18 x 93 | 76 x 22 | 25 x 56 | 70 x 80 |
| 79 x 77 | 83 x 45 | 23 x 16 | 18 x 55 |
| 77 x 90 | 73 x 92 | 19 x 71 | 78 x 46 |

Name : _____ Score : _____

Teacher : _____ Date : _____

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| | | | |
|---|---|---|---|
| $6\overline{)1542}$ | $3\overline{)1038}$ | $2\overline{)628}$ | $9\overline{)6885}$ |
| $3\overline{)1944}$ | $2\overline{)1962}$ | $5\overline{)3070}$ | $8\overline{)6528}$ |
| $4\overline{)3360}$ | $7\overline{)5565}$ | $7\overline{)847}$ | $7\overline{)1225}$ |

# Expressions and Equations

## It's Party Time

The Murphy's love to have parties. Last Friday, they gave a party and the doorbell rang 15 times. At the first ring, one guest arrived. Each time the doorbell rang after that, two more guests arrived than the time before.

On Saturday they had another party. At the first ring of the doorbell a single guest arrived, at the second ring two guests appeared, at the third ring three guests and so on. If the doorbell rang 20 times Saturday night, how many guests attended? Was this party bigger than Friday's? How do you know?

1. Show how you solved the problem.

# Ratios and Percents

**Directions:**

Complete the following three problems to apply your understanding of percentages and ratios.

Problem #1:
Al's Awesome Autos advertised a special sale on cars □Dealer cost plus 5%!
Jack and Margaret bought a luxury sedan for $23,727.90. What was the dealer's cost? (HINT: Using a proportion, think of the new price being 105% of the cost of the car)

Why do you need to calculate 105% of the cost?

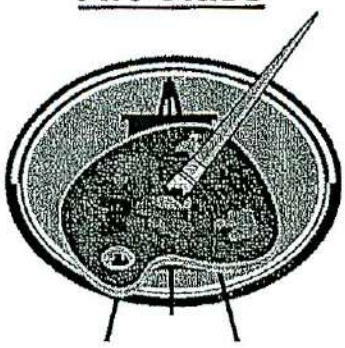
_____

_____

Problem #2:
You and some friends went out to T.G.I. Fridays for dinner. You ordered a root beer, sweet potato fries and cheese quesadillas. The total bill came to $21.86. Your dad has told you many times that it's important to leave a good tip; about 20%. You have $26.00 in your wallet. Can you leave a 20% tip? How much would the total be if you left a 20% tip? Can you cover the cost?

Problem #3:
Builders have observed that residence windows are most attractive if they have the width to length ratio 3:5. If a window is to be 48 inches wide, what should its length be for the most attractive appearance?

# Art Class



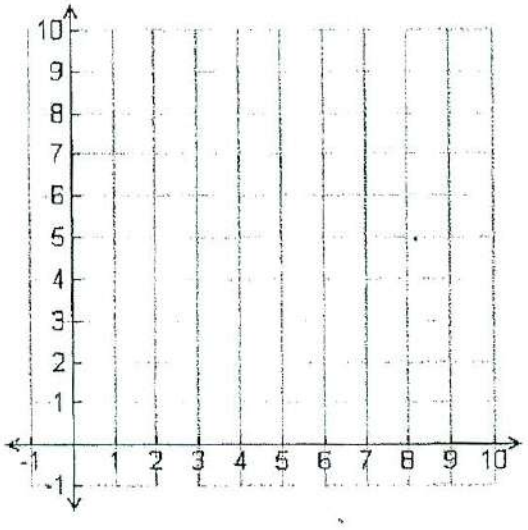
Directions: Solve the following problems.

The students in Ms. Baca's art class were mixing yellow and blue paint. She told them that two mixtures will be the same shade of green if the blue and yellow paint are in the same ratio.
The table below shows the different mixtures of paint that the students made.

| | A | B | C | D | E |
|---|---|---|---|---|---|
| Yellow | 1 part | 2 parts | 3 parts | 4 parts | 6 parts |
| Blue | 2 part | 3 parts | 6 parts | 6 parts | 9 parts |

a. How many different shades of paint did the students make?

b. Some of the shades of paint were bluer than the others. Which mixture(s) was the bluest? How do you know?
c. Graph a point for each mixture on the grid below. Don't forget to add a title and labels for each axis.
d. Draw lines connecting the origin (0, 0) with each point separately (HINT: You'll have at least two lines from the origin.)



# The Number System

Directions:
Complete the two problems below.

Problem 1:
Using exactly four 4's and any operations [+, □x, ÷, ()] write an expression to equal each of the following:

1 = _____ 4 = _____

2 = _____ 5 = _____

3 = _____ *Example: 16 = 4 x 4 x 4 ÷ 4

**Problem 2:**
Find three different ways to fill in operations in the boxes below to make the equations true.

$6 \square 1 \square 2 \square 2 = 5$ *Hint: Operations include: +, -, x, ÷,()

$6 \square 1 \square 2 \square 2 = 5$

$6 \square 1 \square 2 \square 2 = 5$

# Functions

## Party

This problem gives you the chance to:
- choose and use number operations in context
- find and use an algebraic formula
- relate formulae and graphs

Sarah is organizing a party at the Vine House Hotel.

**Vine House Hotel**
**Your fab party place!**

**Charges**
$750 for up to 30 people
***plus***
$20 per person for each extra person

1. Sarah thinks there will be 60 people at the party.
   Show that the cost will be $1350.

2. What is the cost of a party for 100 people at the Vine House Hotel? $ _____

   Show how you figured it out.

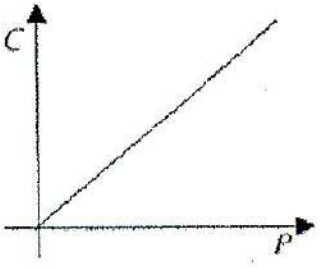
3. C dollars is the cost of a party for P people.
   Find a formula that gives C in terms of P.

4. Sarah's party cost $1750 in all.
How many people came to the party?
Show your calculations.

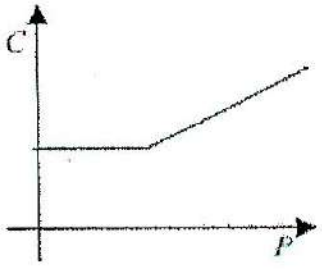
5. Which of these graphs shows the connection between the number of people at the party, P, and the cost, $C?

Graph _____

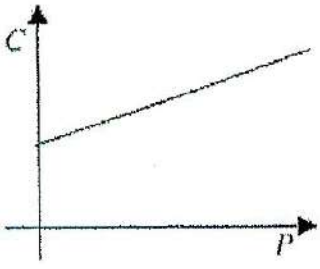
Graph 1



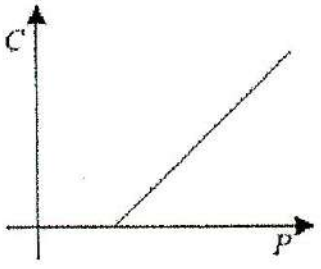

Graph 2




Graph 3




Graph 4




Explain how you know

_____

_____

_____

_____