EG1

One bow uses 4 feet of ribbon.

A. How many feet of ribbon are needed to make 14 bows?

B. How many bows can be made with 75 feet of ribbon? Show your work

EG2

Karen and Linda have a package that contains 50 feet of ribbon. Four feet of ribbon is needed to make a bow.

Karen says they have enough ribbon to make 12 bows.

Linda says they have enough to make 13 bows.

Who is correct? Explain your choice.

EG3

Each octopus has 8 legs.

There were 12 octopuses at the aquarium.

How many legs are there in all? Show your work.

EG4

An octopus has 8 legs.

There are 96 octopus legs in the aquarium.

How many octopuses are there in the aquarium? Show your work.

EG5

There are 105 boxes of cookies at the bake sale.

Each box has 4 bags of cookies.

Each bag has 5 cookies.

How many total cookies are in the boxes? Show your work.

EG6

The Dilly Market has 4 shelves of pickles.

    Each shelf has 5 jars.

    Each jar has 6 pickles.
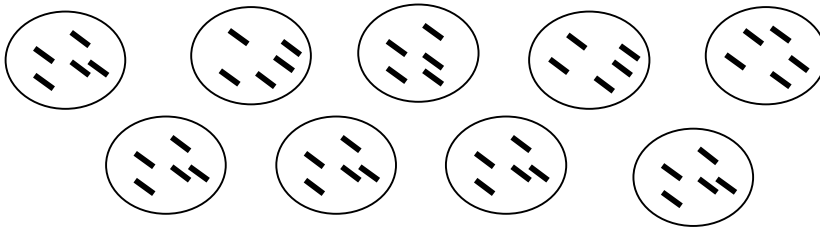
How many pickles are there in all? Show your work.

EG7

Jean has five bean plants. Each plant has 9 beans on it.

Which picture best represents this story?
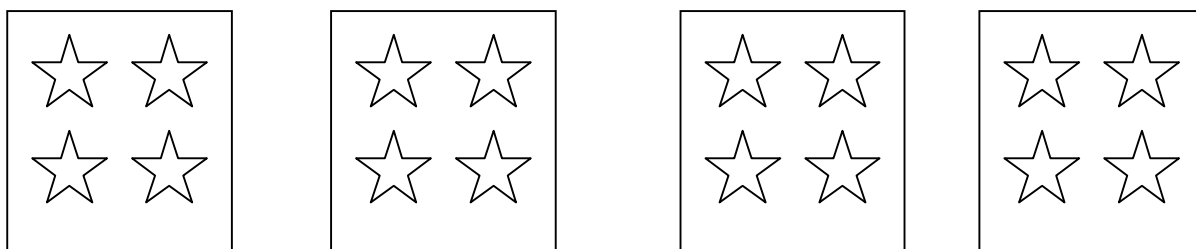
Picture A

Picture B

Explain your choice.

EG8

Look at these stars.

Sam found the total number of stars by counting each one. Sam counted 16 stars.

Show Sam another way to find the total number of stars.

EG9

There are 68 cars in the parking lot. Each car has four wheels.

How many wheels are there in all? Show your work.

EG10

One tricycle has three wheels.

A. How many wheels do 5 tricycles have? Show your work.

B. How many wheels do 29 tricycles have? Show your work.

EG11

There are 19 tables in the cafeteria.

If each table seats 18 students, how many students can eat lunch at the same time? Show your work

EG12

There are 12 cans of tennis balls in a case. There are 3 tennis balls per can.

How many tennis balls per case?   Show your work.

EG13

A. Mark bought 20 boxes of crayons. Each box contains 8 crayons.

How many crayons are there all together? Show your work.

B. Sarah bought 15 boxes of crayons. Each box contained 64 crayons.

How many crayons were there all together? Show your work.

EG14

Rod bought 3 tins of mints.

Each tin contained 27 mints.

How many mints were there all together? Show your work.

EG15

Linda planted her garden. She has 7 plants in each row.

She planted 2 rows of corn, 6 rows of carrots, and 4 rows of beans.

How many plants are in Linda's garden? Show your work.

EG16

Stephanie had 4 sheets of 15 stickers.

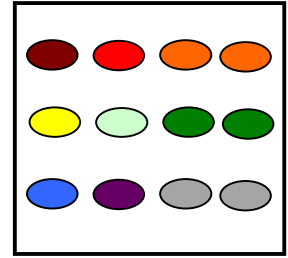How many stickers did Stephanie have? Show your work.

EG17

There are 16 players on each soccer team in the Smithville Soccer League.

   A. How many players are in the league if there are 12 teams? Show your work

   B. How many players are in the league if there are 24 teams? Show your work.

EG18

This box of watercolors has 12 sections of paint.

All 24 students in an art class have their own box of watercolors like the one pictured above.

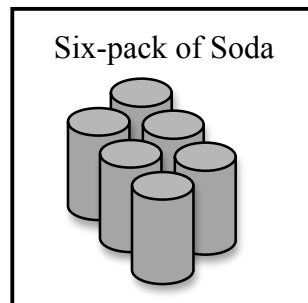How many sections of paint are there all together? Show your work

EG19

Linda is having a party.

She bought 10 six-packs of soda on Saturday, and 4 more six-packs on Monday.

How many cans of soda does she have for the party?

Show your work

Six-pack of Soda

EG20

There are 26 red cards in a deck of cards.

Mrs. Gilbert has 18 decks of cards.

How many red cards does she have all together? Show your work.

EG21

There are 24 sodas in a case.

A) How many sodas are in 16 cases? Show your work.

B) How many sodas are in 160 cases? Show your work.

EG22

Central Hospital reported that 16 sets of triplets were born last year. How many babies is that?

Show your work.

EG24

A. Ben bought 8 boxes of crayons. Each box contained 8 crayons. How many crayons were there all together? Show your work.

B. Sally bought 8 boxes of crayons. Each box contained 24 crayons. How many crayons were there all together? Show your work

C. Bob bought 8 boxes of crayons. Each box contained 48 crayons. How many crayons were there all together? Show your work.

EG25

The parking lot at the ball field is full. There are 30 rows of cars.

There are 32 cars per row.

How many cars are in the parking lot? Show your work.

EG26

Anna has a sheet of stickers.   There are 4 rows of 9 stickers on the sheet of stickers.

How many stickers are there all together? Show your work

EG27

The gym is set up for a concert.

There are 39 rows with 20 chairs in each row.

How many chairs are there? Show your work.

EG28

Tracy baked cookies for the bake sale.

She filled 12 cookie sheets with cookies.

There were 5 rows of 4 cookies per sheet.

How many cookies did Tracy bake? Show your work.

EG29

Mr. Jones ordered 7 cases of paper. There are 10 packages of paper per case.

Each package contains 500 sheets of paper.

How many sheets of paper did he order? Show your work.

EG30

While shopping at the store Laura bought a 10-pack of gum.

Each pack of gum has 5 sticks.

How many sticks of gum are there in all? Show your work

EG31

The Sunshine Fruit Company packs oranges in layers inside boxes.

There are 24 oranges per layer, and 3 layers per box.

 How many oranges are there in 1 box? Show your work.

EG32

The Sunshine Fruit Company packs oranges in layers inside boxes.

Each layer has 4 rows of 9 oranges.

A. How many oranges in one layer? Show your work.

B. There are 3 layers per box, how many oranges are there in
one box?   Show your work.

EG33

The Sunshine Fruit Company packs oranges in layers inside a box.

Each layer has 4 rows of 9 oranges. There are 3 layers per box.

How many oranges are there in one box?

Show your work.

EG34

There are 6 buses used by a school.

There are 24 seats per bus. Each seat holds 3 students.

How many students can the buses hold in all? Show your work.

EG35

There are 7 people in the family.

How many eyes in the family? Explain how you know.

EG36

There are 8 cows in the barnyard.

Susan found the total number of legs by counting each leg.

Show Susan another way to find the total number of legs.

EG37

There are 4 cows and 3 chickens in the barnyard.

Bill found the total number of legs by counting them.

What is another way for Bill to find the total number of legs in the barnyard?

EG38

There are 85 students in the cafeteria. Each table seats 12 students.

How many tables are there in the cafeteria? Show your work

EG39

There are 175 students in the cafeteria. Each table seats 15 students.

> Karen says 11 tables are needed to seat all of the students.

> Tracy says 12 tables are needed to seat all the students.

Who is correct? Explain your choice.

EG40

There are 79 students in the cafeteria. Each table seats 8 students.

How many tables are needed to seat all 79 students? Show your work.

EG41

Tennis balls come in packages of 3.

John bought 258 tennis balls.

How many packages did he buy? Show your work

EG42

Mrs. Thompson ordered 288 pencils.

How many dozen pencils did she order? Show your work.

EG43

John had 96 stars. He put them in 6 rows.

How many stars were in each row? Show your work.

EG44

There are 12 cookies and 4 children.

How many cookies will each child get? Explain how you know.

EG45

There are 48 raisins and 8 children.

How many raisins will each child get? Explain how you know.

EG46

There are 42 cans. There are 6 rows of cans.

How many cans in each row? Explain how you know.

EG47

A full soda machine holds 210 cans of soda.

A. There are 5 different kinds of soda in a soda machine.
   There are equal amounts of each kind of soda.
   How many cans of each kind of soda are in the soda
   machine?   Show your work.

B. How many six-packs of soda are in the soda machine?
   Show your work.

EG49

Meg picked four 4-leaf clovers and Seth picked five 3-leaf clovers.

Who has more leaves? Explain how you know.

EG50

Eddie picked some 3-leaf clovers. Ryan picked some 4-leaf clovers.

Eddie and Ryan each have 132 leaves.

How many clovers did Eddie and Ryan each pick? Show your work.

EG51

Casey went to the horse barn to feed the horses.

Casey looked under the stall to see the horse legs.

Casey saw 48 legs.

How many horses are in the barn? Show your work.

EG52

Mr. Smith put new horseshoes on his horses. He put on 32 shoes.

How many horses got new shoes? Explain how you know.

EG53

How many fingers on 9 hands? Show how you know.

EG54

One spider has eight legs.

How many legs on 7 spiders? Show your work.

EG55

The Math Club bought packages of juice boxes for a meeting.

     Each package has 4 juice boxes in it.

     The Math Club expects 26 students to come to the meeting.

How many packages of juice boxes does the Math Club need to buy if everyone gets one juice box?   Show your work.

EG56

A. The chef baked 54 muffins. There are 6 muffins per tin.
How many tins of muffins did the chef bake?
Show your work.

B. The chef baked 162 muffins. There are 6 muffins per tin.
How many tins of muffins did the chef bake?
Show your work

C. The chef baked 180 muffins. There are 12 muffins per tin.
How many tins of muffins did the chef bake?
Show your work

EG57

One octopus has 8 legs.

    A) How many legs do 5 octopuses have? Show your work.

    B) How many legs do 12 octopuses have? Show your work.

    C) How many legs do 20 octopuses have? Show your work.

EG58

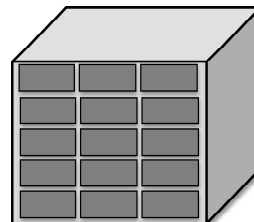Sara saw 9 starfish at the aquarium.

Each starfish had 5 arms.

Sara skip counted by fives to figure out how many arms the starfish had all together.

Finish her skip counting to solve the problem.

> **5, 10, 15, 20, 25,**

EG59

Amanda has a case with 5 rows of 3 drawers in each row.
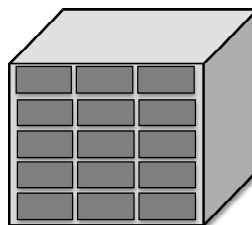
Hannah and Tina have cases just like Amanda's case.

How many drawers do Amanda, Hannah and Tina have all together? Show your work.

OGAP Equal Groups   3.31.2014

EG60

There are 15 drawers in each case.

There are 150 drawers all together.

How many cases are there? Show your work.

58

© 2012 Marge Petit Consulting, E. Hulbert, and R. Laird. A derivative product of the Vermont Mathematics Partnership Ongoing Assessment Project funded by NSF (Award Number EHR-0227057) and the US DOE (S366A0200002))

EG62

Each ant has 6 legs.

There are 8 ants in an ant farm.

How many legs do the ants have all together? Show your work.

EG63

The 4th grade class earned $132 from a bake sale.

They decide to donate an equal amount of money to four different organizations.

How much money will the class donate to each organization?
Show your work.

EG64

There are 52 cards in one deck of cards.

Two decks of cards are combined to play a game.

Eight people are playing the game.

How many cards will each person receive if all the cards are passed out equally? Show your work.

EG65

Below is a sign in the school auditorium.

> **The River City Elementary School auditorium has 350 seats**

Maria counted 14 rows of seats and noticed that there are an equal number of seats in each row.

How many seats are in each row?

Show your work.

EG66

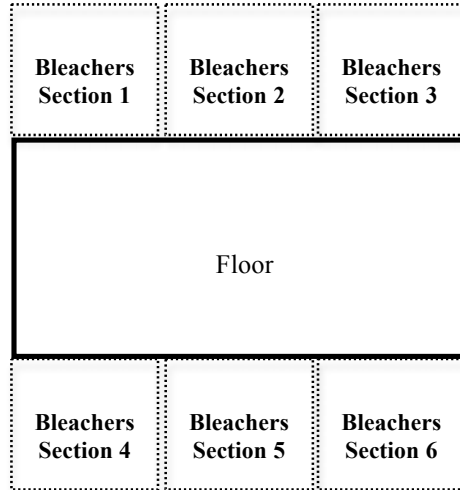There are 15 teams in the town soccer league.

The league made sure that the number of players on each team is as equal as possible.

There are approximately 200 players in the league.

How many players are on each team? Show your work.

EG67

A sketch of the State College gymnasium is shown below.

Each section of bleachers seats 225 people.

How many extra chairs need to be set up on the floor so that the gymnasium can seat 2000 people? Show your work.

EG68

Students in Grades 5, 6, 7, and 8 attend Elm Middle School.

There are approximately 383 students in each grade.

South Street Middle School has about half the number of students as Elm Middle School.

About how many students are in South Street Middle School? Show your work.

EG69

Drew gave 5 cards to every person playing the game.

There are 4 people playing the game.

How many total cards did Drew give? Show your work.

EG70

A. <u>Solve the following problem</u>

You have 145 pens to share equally with 15 students.

 If each student gets an equal amount of pens, how many will each student get? Show your work.

B. **For each statement** circle correct or incorrect to indicate how many pens each student gets.

	Correct	Incorrect
1) You cannot solve this problem because 145 cannot be divided by 15 evenly	Correct	Incorrect
2) Each student gets 9 pens and then you divide each of the leftover pens into pieces until everyone has a fair share.	Correct	Incorrect
3) Each student gets 9 pens and there are 10 extra pens.	Correct	Incorrect

For each statement you indicated is correct, explain why it is correct.

EG71
A. <u>Solve the following problem</u>

A class of 234 students is going on a field trip. The buses used to transport the students hold 28 students. How many buses will be needed to take all the students on the field trip? Show your work.

B. **For each statement** circle correct or incorrect to indicate how many buses will be needed to take all the students on the field trip.

A) Nine buses are needed	Correct	Incorrect
B) Eight buses are needed	Correct	Incorrect
C) Only 224 students can go on the trip to have an equal number of students on each bus.	Correct	Incorrect

For each statement you indicated is correct, explain why it is correct.

EG72

A. Solve the following problem

John and Maria were making decorations for a party. Each decoration takes 25 inches of string. If they have 56 feet of string, how many decorations can they make? Show your work.

B. **For each statement** circle correct or incorrect to indicate how many decorations John and Maria can make.

A) They can make 2 decorations with 6 feet of string left over.	Correct	Incorrect
B) They can make 2 decorations with 6 inches of string left over.	Correct	Incorrect
C) They can make 26 decorations with 22 inches of string left over.	Correct	Incorrect
D) They can make 26 full decorations and make one decoration that uses 22 inches of string.	Correct	Incorrect

For each statement you indicated is correct, explain why it is correct.

EG73

A. Solve the following problem

25 students are sharing 60 brownies equally. How many brownies should each student get? Show your work.

B. **For each statement** circle correct or incorrect to indicate how many brownies each student should get.

E) Two brownies each	Correct	Incorrect
F) Two and two-fifths of a brownie each	Correct	Incorrect
G) 15 students get 2 brownies each, and 10 students get 3 brownies each	Correct	Incorrect

For each statement you indicated is correct, explain why it is correct.

EG74

A. Solve the following problem

There are 30 teams in the town soccer league. The league made sure that the number of players on each team was as equal as possible.

435 players signed up for the soccer league.
How many players are on each team? Show your work.

B. **For each statement** circle correct or incorrect to indicate how many players should be on each soccer team.

A) 14 players on each team	Correct	Incorrect
B) Some teams will have 13 players and some will have 14 players	Correct	Incorrect
C) Half the teams will have 14 players and half the teams will have 15 players	Correct	Incorrect
D) 15 players have to play in another league	Correct	Incorrect

For each statement you indicated is correct, explain why it is correct.

EG75

A. Solve the following problem

Five friends held a car wash every Saturday all summer to earn money for school clothes. At the end of the summer they had earned $858.48. If they divide the money equally among the five friends, how much money does each person get? Show your work.

B. **For each statement** circle correct or incorrect to indicate how much money each of the friends should get.

A) Each friend will get $171.69 with 3 cents left over	Correct	Incorrect
B) You cannot divide $858.48 evenly by the 5 friends.	Correct	Incorrect
C) Each friend will get $171.696	Correct	Incorrect
D) Each friend will get $171.69 and 6/10 of a cent	Correct	Incorrect

For each statement you indicated is correct, explain why it is correct.