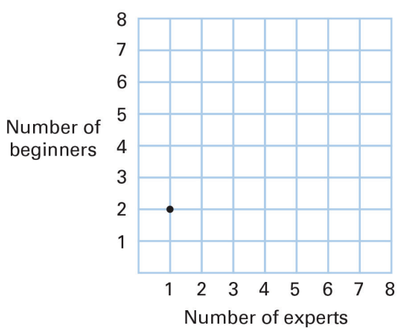
MAKING MATH REAL!

How many beginner students can take karate?

Mr. Miako teaches a karate class. He often divides his class into pairs to practice skills of self-defense. The pairs consist of an older expert student with two beginners.



Mr. Miako made a graph so he could quickly figure out how many beginners **(dependent)** he can have in class based on how many experts **(independent)** he has in class. He started by putting a dot that shows that one expert is matched with two beginners.

Complete the graph by plotting points to show how many beginners could be matched up with 2, 3, and 4 experts.

New Lesson added to *Expressions and Formulas*: CCSSM 6.EE.C.9

REPRESENT RELATIONSHIPS BETWEEN VARIABLES

What is the actual size of this tiny butterfly?

This is an enlarged picture of the smallest butterfly in the United States, the Western Pygmy Blue Butterfly.

The scale factor of the picture is 4.

Remember:

Measure of Original $\xrightarrow{\times 4}$ Measure of Picture

So:

Measure of Original $\xleftarrow{\div 4}$ Measure of Picture

Use the ratio table below to find the real-life measurements.

Length of Picture (cm)			
Width of Picture (cm)			

÷2 ÷2 ÷2 ÷2

New Lesson added to *Ratios and Rates*: CCSSM 7.G.A.1

ANALYZE PROPORTIONAL RELATIONSHIPS

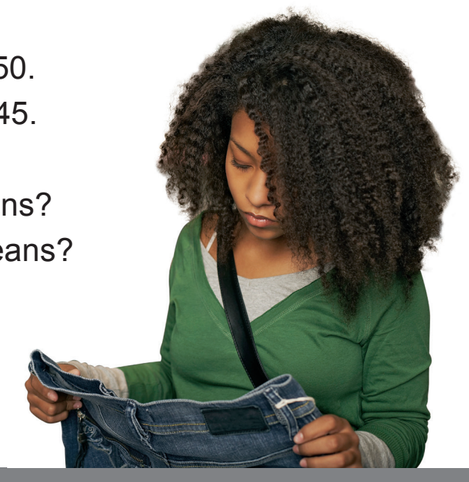
If all T-shirts and all jeans have the same price, how much are each?

Lisette wants to know the price of one T-shirt and also the price of one pair of jeans, but her friends Robin and Jamie only remember how many of each item they bought and how much they paid in total.

Robin bought 2 T-shirts and 2 pairs of jeans and paid $50.
Jamie bought 3 T-shirts and 1 pair of jeans and paid $45.

An equation for Robin's purchase is $2x + 2y = 50$.
An equation for Jamie's purchase is $3x + 1y = 45$.

What do the x and y represent in these equations?
Can you find the price of 1 T-shirt or 1 pair of jeans?



New Lesson from *Graphing Equations*: CCSSM 8.EE.C.8

SOLVE SYSTEMS OF LINEAR EQUATIONS

What can you infer about these crabs from the data?

Marcus is participating in a marine biology program in Oregon. He wants to analyze the sizes of the two types of crabs. Below is the information he has compiled for the widths of the crabs' shells.

Dungeness Crab	
Male/Female	**Width**
Female	14 cm
Female	14 cm
Male	14 cm
Female	15 cm
Female	15 cm
Female	16 cm
Male	18 cm
Male	19 cm
Male	20 cm
Male	25 cm

Red Rock Crab	
Male/Female	**Width**
Female	8 cm
Male	10 cm
Female	12 cm
Male	15 cm
Male	15 cm
Male	15 cm
Male	16 cm

Based on his data, how would you describe the widths of Dungeness Crabs compared to the widths of Red Rock Crabs?

New Lesson added to *Second Chance*: CCSSM 7.SP.A.1, A.2, B.3, B.4

DRAW INFERENCES ABOUT TWO POPULATIONS

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