

Algebraic Relationships

Scorer	CU	PS	V	C	Acc

Name _____

Date _____

Teacher _____

Exceeds Meets Does Not Yet Meet On-Demand Revised/Redone Modified

Comments: _____

(Algebraic Relations)

Hurry Up & Wait

People began waiting in line for the amusement park at 9:00. By 9:05, there were seven people in line. At the end of the second five minutes (9:10), there were 16 people in line. At the end of 15 minutes (9:15), there were 25 people in line. If this pattern continues, what time will it be when there are 88 people in line?

5A01

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Coco the Chimpanzee

Coco, the new chimpanzee at the zoo, was 6 pounds, 13 ounces when she was born. If she gained 5 ounces every 8 days, how many weeks old was she when she weighed 9 pounds? (There are 16 ounces in one pound.)

Explain your answer(s) and your thinking.

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Cats and Dogs

Sarah's cat weighs 2 pounds. Nathan's dog weighs 14 pounds. Both pets are gaining about 1 pound each month. If they keep on gaining weight like that, the dog will soon weigh three times as much as the cat. How many pounds will the cat weigh then?

Explain your answer(s) and your thinking.

5A03

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Hot Diggity Dog

Remi and Michael were helping at the food booth at Back to School Night. Remi told Michael to put mustard on every other hot dog, relish on every third hot dog and onions on every fifth hot dog. Out of 50 hot dogs served, how many will have all three toppings.

Explain your answer(s) and your thinking.

5A04

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The Goofy Gardener

The Goofy Gardener had some very strange plants in his greenhouse. He raises purple pigeon plants that grow 1 foot a day, and green monster ferns that grow 2 feet a day. Today, the Goofy Gardener found that he has a purple pigeon plant 1 foot high and a monster fern 7 feet high. In how many days will the monster fern be three times as high as the pigeon plant?

Explain your answer(s) and your thinking.

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Tie-Dyed Shirts

Laura must have 100 tie-dyed shirts before she can open a booth at the Saturday Market. On her first day she made 4 shirts. On the second day she made 6 shirts. On each day thereafter, she made 2 more shirts than the previous day. Which day will she have at least 100 shirts altogether?

5A06

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Eggcetera

My basket has more than 12 eggs, but fewer than 32. Counting them by groups of 4, I have 3 left over. If I count them in groups of 5, I have 2 left over. How many eggs are in my basket?

Explain your answer(s) and your thinking.

5A07

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At a Snail's Pace

Suzanne and Barbara found that they were getting more and more snails in their garden. On the first day they counted 9 snails, then on the second day there were 17. On the third day they counted 24, 32 on the fourth day, and 39 on the fifth day. On what day did they count more than 90 snails?

Explain your answer(s) and your thinking.

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Going Marbles

If you had 25 marbles and you decided to put them into 3 piles, so that each pile had only an odd number of marbles, how many ways could the marbles be arranged?

Explain your answer(s) and your thinking.

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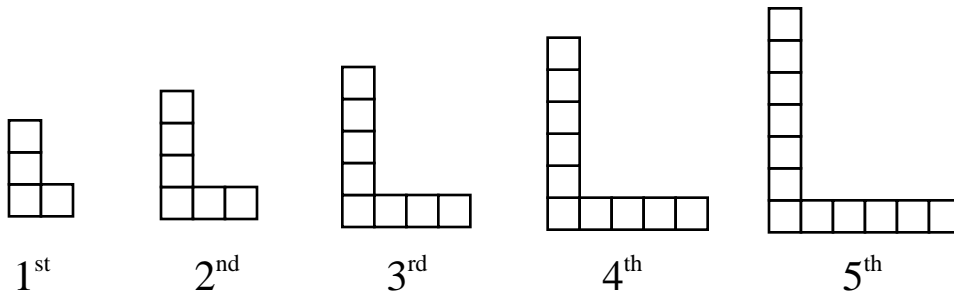
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The “L” Pattern

Examine the following pattern. Find the number of blocks required to build the 7th element of the pattern. How many blocks are needed to build the 10th element? How many blocks are needed to build the “n”th element? (“n” can stand for any number.) Tell how you know how many blocks are needed.



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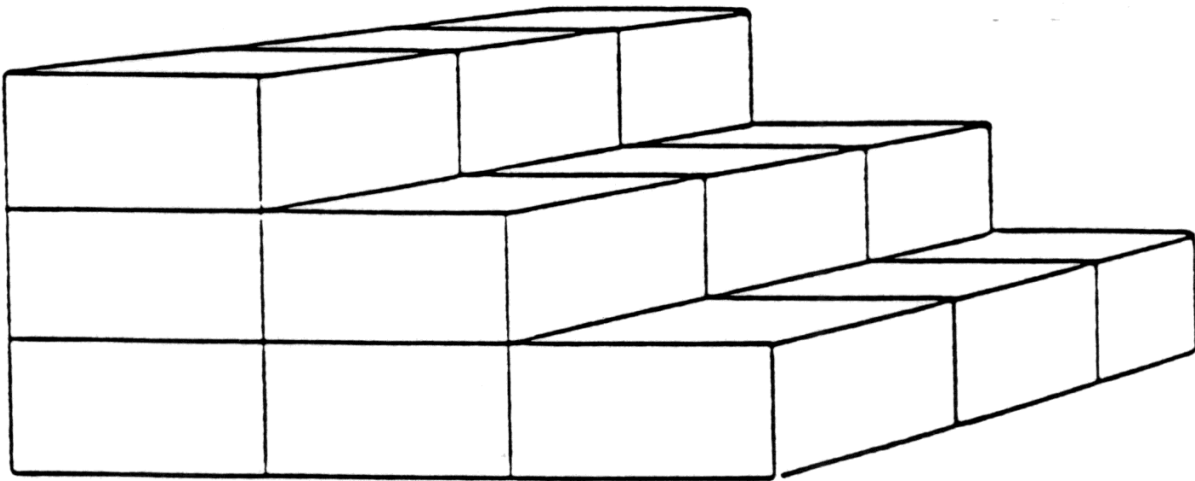
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Stepping Up

Lily is using cement blocks to build steps leading up to her front door. Each step is three blocks wide and one block higher than the step below it. She will need to build four steps to reach her front porch. She has already built three steps (as pictured below) and is ready to add the last step. How many blocks will she use altogether to build the four steps? Explain your answer and your thinking.



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Flea Jumping Practice

Jackie's pet flea, Flighty, is practicing for a flea jumping contest. The first attempt was only 0.1 meter. Pitiful. It's a good thing Flighty is going to continue to practice. His next attempt was 0.3 meter. Better. The third practice was 0.5 meter. If Flighty continues to improve at the same rate, what is the fewest attempts it will take before he hops 2 meters or more?

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Exercising

Mrs. Barnes is beginning a new exercise program. She plans to walk 2 miles for 2 days, 3 miles for 3 days, 4 miles for 4 days and continue the pattern until she is walking 6 miles per day. In how many days will she first walk 6 miles?

Explain your answer(s) and your thinking.

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Beanie Babies

Mary, Sue and Janice collect Beanie Babies. Mary has five more than Sue does. Janice and Sue have the same number of Beanie Babies. Together the three girls have 74 Beanie Babies. How many does each girl have? Explain your answer and your thinking.

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Rungs on a Ladder

A fireman stood on the middle rung of a ladder hosing water in a burning building. When the smoke cleared, he stepped up three rungs. A sudden flare-up forced him to go down five rungs. Later he climbed seven rungs where he worked until the fire was out. Then he climbed the remaining six rungs to the top of the ladder and stood on the roof. How many rungs did the ladder have?

Explain your answer(s) and your thinking.