

North Carolina Grade 6 Sample Open Response Test

1. Alexandra is making gift baskets to sell at the fair. Use prime factorization to determine the greatest number of baskets Alexandra can make so that the same number of each type of item is in a basket. How many of each item will be in each basket? Explain your results.

15 silk flowers	12 candles
24 decorative soaps	42 peppermints

Course 1, Lesson 4-3

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2. Teresa created a puzzle for her brother Omar. She used the following ordered pairs as clues to the puzzle. Omar needs to plot the points in order and then connect the points in that same order.

$(0, 3)$; $(2, 1)$; $(4, 1)$; $(2, -1)$; $(3, -4)$; $(0, -3)$; $(-3, -4)$; $(-2, -1)$; $(-4, 1)$; $(-2, 1)$; $(0, 3)$

- a. Plot the points on a coordinate graph. What is the solution to Teresa's puzzle?
- b. Which coordinates are in Quadrant III? Explain your reasoning.
- c. Create a quadrilateral on a coordinate plane using at least 6 different ordered pairs. Record the ordered pairs for your picture.

Course 1, Lesson 12-2.

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3. Write each number in the list below in decimal form and then order the decimals from least to greatest.

$$\frac{1}{2}, -2, 7\frac{1}{4}, 0.6, -2\frac{1}{5}, 7.4$$

Decimal Form
$\frac{1}{2} =$
$-2 =$
$7\frac{1}{4} =$
$0.6 =$
$-2\frac{1}{5} =$
$7.4 =$

Ordered from least to greatest

____, _____, _____, _____, _____, _____

Course 1, Lessons 4-4 and 3-1

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4. Jerry rolls a number cube. What is the probability that he will get a 5? Use this probability to predict the number of times Jerry will get a 5 if he rolls the number cube 300 times.

Course 1, Lessons 11-2 and 11-3

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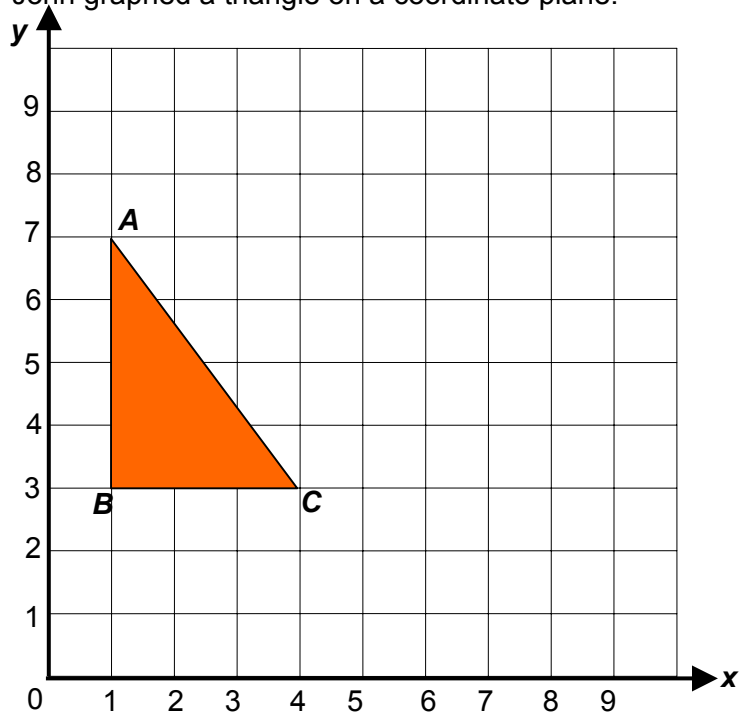
5. Daniel created an input-output machine. Listed below are the results for 5 different entries.

Input	Output
-2	-11
0	-5
2	1
4	7
6	13

- What is the rule for this table? Write the algebraic rule for this table.
- Using your rule, if the number -10 was inputted into this machine, what would be the numerical output?
- Is the relationship in this table a linear or nonlinear relationship? Explain your reasoning.

Course 1, Lesson 12-1

6. John graphed a triangle on a coordinate plane.



He then translated the triangle 5 units to the right. Draw the translated triangle on the coordinate grid and give the new coordinates.

Course 1, Lesson 12-3