

Let's
Practice!

SMARTER Math Review: Constructed Response Question

HIGH SCHOOL

Common Core State Standard A-REI.6 — Algebra:
Reasoning with Equations and Inequalities

Solve systems of linear equations exactly and approximately (e.g., with graphs),
focusing on pairs of linear equations in two variables.

A restaurant serves a vegetarian and a chicken lunch special each day. Each vegetarian special is the same price. Each chicken special is the same price. However, the price of the vegetarian special is different from the price of the chicken special.

- On Thursday, the restaurant collected \$467 selling 21 vegetarian specials and 40 chicken specials.
- On Friday, the restaurant collected \$484 selling 28 vegetarian specials and 36 chicken specials.

What is the cost of each lunch special?

Vegetarian: _____

Chicken: _____

SBAC Sample Item ID: MAT.HS.CR.2.0AREI.A.032

DOK Level: 2

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An excerpt
from a

SMARTER Math Review: Extended Response Question

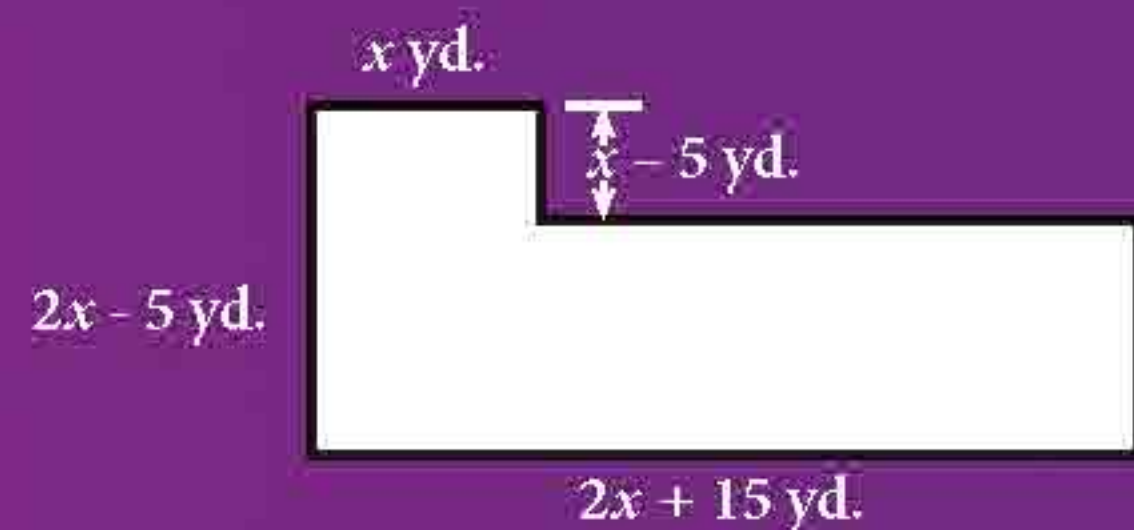
HIGH SCHOOL

Common Core State Standard A-APR.1 – Algebra: Arithmetic with Polynomials and Rational Expressions

Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.

Part A

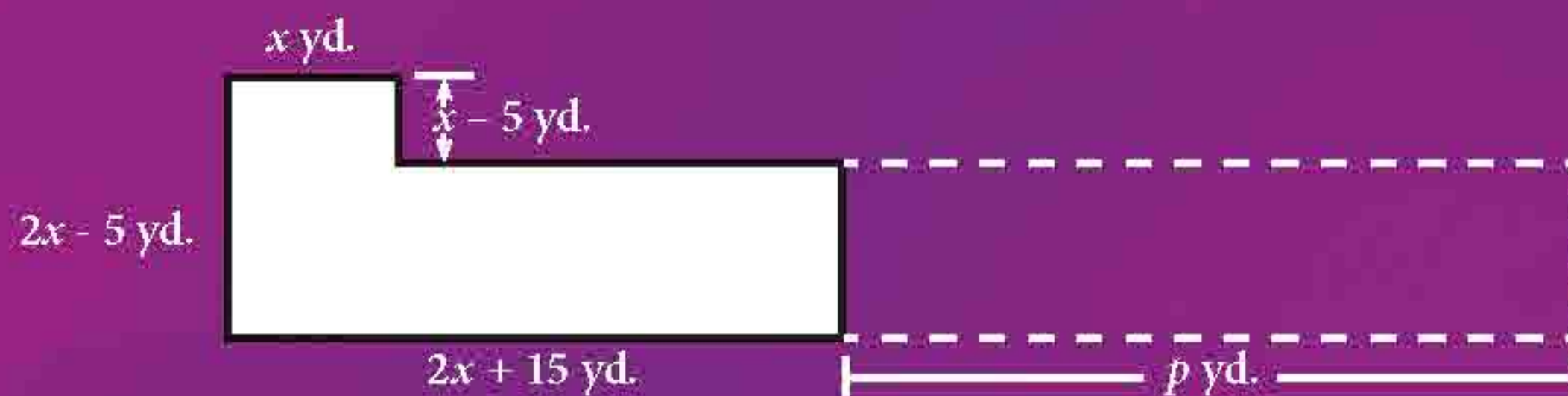
A town council plans to build a public parking lot. The outline shown represents the proposed shape of the parking lot.



Write an expression for the area, in square feet, of this proposed parking lot. Explain the reasoning you used to find the expression.

Part B

The town council has plans to double the area of the parking lot in a few years. They create two plans to do this. The first plan increases the length of the base of the parking lot by p yards, as shown in the diagram below.



Write an expression in terms of x to represent the value of p , in feet. Explain the reasoning you used to find the value of p .

SBAC Sample Item ID: MAT.HS.ER.3.0AAPR.F.045

DOK Level: 3 (for entire task)

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An excerpt
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SMARTER Math Review: Performance Task Question

HIGH SCHOOL

Packaging Cans

Session 1

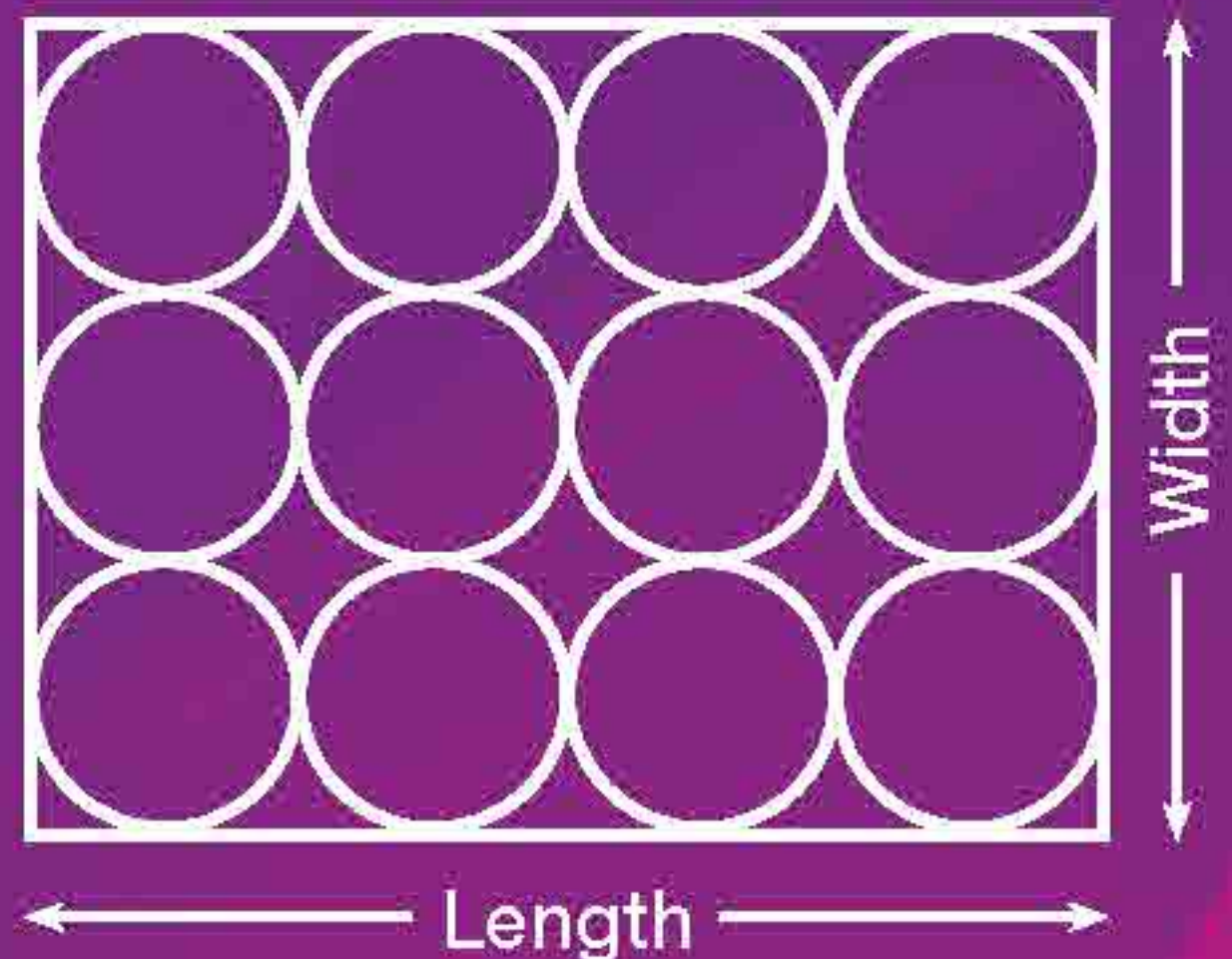
Part A (Group work)

You have been asked to be a consultant for a beverage company. The company president would like you to investigate how soda cans are packaged. Cans are constructed in such a way that they are not truly cylinders, but for the purpose of your investigation, we will assume that they are right circular cylinders.

The current boxes used to package soda cans have rectangular bases. The 12 cans in a box are stacked in one layer. The diagram shows Stacking Method A, a 3-can by 4-can arrangement.

With your group, find all possible one-layer stacking arrangements for 12 cans in a rectangular box where the cans touch as shown. Show them in the space. The number of cans along the length and the width must be factors of 12.

Stacking Method A



See your math teacher for more about this problem...

SBAC Sample Item ID: MAT.HS.PT.4.CANSB.A.051

DOK Level: 4 (for entire task)

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Let's
Practice!

SMARTER Math Review: Selected Response Question

HIGH SCHOOL

Common Core State Standard N-RN.2 —
Number and Quantity: Real Number System

Rewrite expressions involving radicals and rational exponents using the properties of exponents.

For items 1a – 1e, determine whether each equation is True or False.

1a. $\sqrt{32} = 2^{\frac{5}{2}}$ True False

1b. $16^{\frac{3}{2}} = 8^2$ True False

1c. $4^{\frac{1}{2}} = \sqrt[4]{64}$ True False

1d. $2^8 = \left(\sqrt[3]{16}\right)^6$ True False

1e. $\left(\sqrt{64}\right)^{\frac{1}{3}} = 8^{\frac{1}{6}}$ True False

SBAC Sample Item ID: MAT.HS.SR.1.00NRN.A.152

DOK Level: 2

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Let's Practice!

SMARTER Math Review: Technology Enhanced Question

HIGH SCHOOL

**Common Core State Standard S-ID.3— Statistics and Probability:
Interpreting Categorical and Quantitative Data**

Interpret differences in shape, center, and spread in the context of the data sets,
accounting for possible effects of extreme data points (outliers).

The ages of the students in a certain high school are to be graphed on a set of parallel box plots according to the following:

Set I: All seniors in the school (grade 12)

Set II: All students in the school (grades 9 through 12)

In the figure below, drag each of the two box plots into position above the number line to approximate the ages of the two sets of students. To do this:

- First move each box plot at an appropriate location according to its center.
- Then drag each endpoint to stretch the box plot to represent the spread.

NOTE: There are no outliers in either set.

I. Seniors Only 

II. All Students 



Age in Years

SBAC Sample Item ID: MAT.HS.TE.1.00SID.P.242

DOK Level: 1

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