Curriculum Aligned Competency Based Test Items
Mathematics
Class 9 – Chapter 4
Linear Equations in Two Variables

SAS21M09C0401

1 A soap manufacturer makes fragrant and non-fragrant liquid soaps. The liquid soaps are filled in plastic bottles and packed in equal size cartons for transportation. Each carton contains 50 bottles. The mass of a full bottle of soap is 220 gm and that of a half-filled bottle is 120 gm. What will be the mass (gm) of the empty bottle?

A. 10
B. 20
C. 100
D. 110

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2 A carton contains both fragrant and non-fragrant liquid soap bottles.
Write an equation representing the number of fragrant and non-fragrant bottles in the carton.

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3 A carton is checked randomly. Which of the following cannot be the number of fragrant and non-fragrant liquid bottles in the carton?

A. $(5, 45)$
B. $(15, 35)$
C. $(20, 30)$
D. $(30, 40)$

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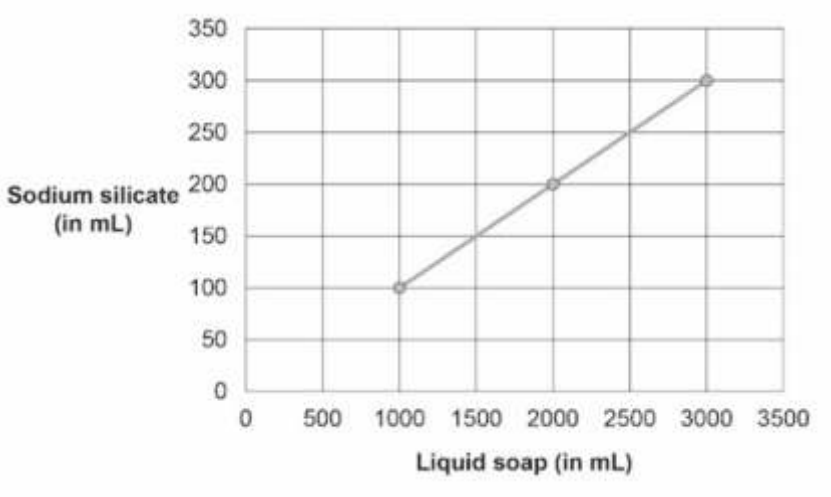
4 The soap bottles are available in small and large sizes.
A carton with 10 small and 40 large bottles weighs 10.8 kg. What is the mass of the carton with 50 large bottles?

Sodium silicate is one of the constituents in liquid soap. The graph shows the amount of sodium silicate in liquid soap.



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5 How much sodium silicate (ml) is used for making 10 L of soap?

A. 100
B. 110
C. 1000
D. 10000

SAS21M09C0406

6 Write an equation to show the relation between quantities of sodium silicate and liquid soap.

Answers

Item Number	
Question Code	SAS21M09C0401
Grade & Chapter Name	Grade 9 | Linear Equations in Two Variables
Concept | Sub-concept	Algebra | Linear Equations
Competency	Employ
Item Type	Multiple Choice Question
Full Credit (Full Score)	B. 20
No Credit (No Score)	Any other response or missing response

Item Number	Question 2
Question Code	SAS21M09C0402
Grade & Chapter Name	Grade 9 | Linear Equations in Two Variables
Concept | Sub-concept	Algebra | Equation
Competency	Formulate
Item Type	Closed Constructed Response
Full Credit (Full Score)	Uses two variable with sum 50 $x+y = 50$ $p+q = 50$
No Credit (No Score)	Any other response or missing response

Item Number	Question 3
Question Code	SAS21M09C0403
Grade & Chapter Name	Grade 9 | Linear Equations in Two Variables
Concept | Sub-concept	Algebra | Equation
Competency	Interpret & Evaluate
Item Type	Multiple Choice Question
Full Credit (Full Score)	D. (30, 40)
No Credit (No Score)	Any other response or missing response

Item Number	Question 4
Question Code	SAS21M09C0404
Grade & Chapter Name	Grade 9 | Linear Equations in Two Variables
Concept | Sub-concept	Algebra | Equation
Competency	Interpret & Evaluate
Item Type	Closed Constructed Response
Full Credit (Full Score)	13.5 13.5 kg
No Credit (No Score)	Any other response or missing response

Item Number	Question 5
Question Code	SAS21M09C0405
Grade & Chapter Name	Grade 9 | Linear Equations in Two Variables
Concept | Sub-concept	Algebra | Graphical Representation
Competency	Employ
Item Type	Multiple Choice Question
Full Credit (Full Score)	C. 1000
No Credit (No Score)	Any other response or missing response

Item Number	Question 6
Question Code	SAS21M09C0406
Grade & Chapter Name	Grade 9 | Linear Equations in Two Variables
Concept | Sub-concept	Algebra | Graphical Representation
Competency	Formulate
Item Type	Closed Constructed Response
Full Credit (Full Score)	Use two variables such that one is ten times or one-tenth of the other. $y = \frac{1}{10}x$ $p = 10q$
No Credit (No Score)	Any other response or missing response

Item Number	Question 7
Question Code	SAS21M09C0407
Grade & Chapter Name	Grade 9 | Linear Equations in Two Variables
Concept | Sub-concept	Algebra | Equation
Competency	Employ
Item Type	Closed Constructed Response
Full Credit (Full Score)	Involves growth rate in reasoning •The average growth rate of a red maple tree is 0.27. at this rate 100-year-old tree can reach the height of 0.27 × 100 = 27 m.
No Credit (No Score)	Any other response or missing response

Item Number	Question 8
Question Code	SAS21M09C0408
Grade & Chapter Name	Grade 9 | Linear Equations in Two Variables
Concept | Sub-concept	Algebra | Equation
Competency	Formulate
Item Type	Multiple Choice Question
Full Credit (Full Score)	C. $h = 0.25 + 0.27t$
No Credit (No Score)	Any other response or missing response

Item Number	Question 9
Question Code	SAS21M09C0409
Grade & Chapter Name	Grade 9 | Linear Equations in Two Variables
Concept | Sub-concept	Algebra | Equation
Competency	Interpret & Evaluate
Item Type	Multiple Choice Question
Full Credit (Full Score)	B. The distance of the line from the Y-axis is 4.
No Credit (No Score)	Any other response or missing response

Item Number	Question 10
Question Code	SAS21M09C0410
Grade & Chapter Name	Grade 9 | Linear Equations in Two Variables
Concept | Sub-concept	Algebra | Equation
Competency	Interpret & Evaluate
Item Type	Multiple Choice Question
Full Credit (Full Score)	D. c, b ≠ 0 and a = 0
No Credit (No Score)	Any other response or missing response