



University of the State of New York  
State Education Department

# **New York State Testing Program Mathematics Test**

2013 Turnkey Training

Grade 4 Extended-response (3-point)  
Sample Question

Guide Set

**2** Candy wants to buy herself a new bicycle that cost \$240. Candy has already saved \$32, but she needs to make a plan so she can save the rest of the money she needs. She decides to save the same amount of money,  $x$  dollars, each month for the next four months.

Write an equation that helps Candy determine the amount of money she must save each month.

**Equation** \_\_\_\_\_

Solve the equation to find the amount of money she must save each month to meet her goal of buying a bicycle.

**Show your work.**

**Answer** \$ \_\_\_\_\_

## Common Core Learning Standard Assessed: 4.OA.3

Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

**2** Candy wants to buy herself a new bicycle that cost \$240. Candy has already saved \$32, but she needs to make a plan so she can save the rest of the money she needs. She decides to save the same amount of money,  $x$  dollars, each month for the next four months.

Write an equation that helps Candy determine the amount of money she must save each month.

**Equation**                      $(240 - 32) \div 4 = x$                     

Solve the equation to find the amount of money she must save each month to meet her goal of buying a bicycle.

**Show your work.**

$$(240 - 32) \div 4 = x$$

$$208 \div 4 = 52$$

**Answer** \$           52.00

**2**

Candy wants to buy herself a new bicycle that costs \$240. Candy has already saved \$32, but she needs to make a plan so she can save the rest of the money she needs. She decides to save the same amount of money,  $x$  dollars, each month for the next four months.

Write an equation that helps Candy determine the amount of money she must save each month.

Equation  $(240 - 32) \div 4 = x$

Solve the equation to find the amount of money she must save each month to meet her goal of buying a bicycle.

Show your work.

$$(240 - 32) \div 4 = x$$

$$208 \div 4 = x$$

$$\begin{array}{r} 52 \\ 4 \overline{)208} \\ \underline{20} \phantom{0} \\ 08 \\ \underline{08} \\ 0 \end{array}$$

Answer \$ 52

Paper	RF Number	Score	Notes
g01	N/A	3	<p><b>Score Point 3</b></p> <p>This response answers the question correctly and demonstrates a thorough understanding of the mathematical concepts. The written equation is correct, the mathematical procedure used to solve the equation is appropriate with all necessary work shown, and the final answer is correct.</p>

2

Candy wants to buy herself a new bicycle that costs \$240. Candy has already saved \$32, but she needs to make a plan so she can save the rest of the money she needs. She decides to save the same amount of money,  $x$  dollars, each month for the next four months.

Write an equation that helps Candy determine the amount of money she must save each month.

Equation  $\frac{(240-32)}{4} = x$  (IN DOLLARS)

Solve the equation to find the amount of money she must save each month to meet her goal of buying a bicycle.

Show your work.

$$240 - 32 = 208$$

$$208 \div 4 = 52$$

Answer \$ 52

Paper	RF Number	Score	Notes
g02	N/A	3	<b>Score Point 3</b>  This response answers the question correctly and indicates that the student has completed the task correctly, using mathematically sound procedures. The written equation is correct, the mathematical procedure used to solve the equation is appropriate with all necessary work shown, and the final answer is correct.





Candy wants to buy herself a new bicycle that costs \$240. Candy has already saved \$32, but she needs to make a plan so she can save the rest of the money she needs. She decides to save the same amount of money,  $x$  dollars, each month for the next four months.

Write an equation that helps Candy determine the amount of money she must save each month.

Equation  $4x = 240 - 32$

Solve the equation to find the amount of money she must save each month to meet her goal of buying a bicycle.

Show your work.

$$4x = 240 - 32$$

$$4x = 208$$

$$x = \frac{208}{4} = \frac{104}{2} = \frac{52}{1} = 52$$

$$52.00$$

Answer \$ 52.00

Paper	RF Number	Score	Notes
g03	N/A	3	<b>Score Point 3</b>  This response answers the question correctly and demonstrates a thorough understanding of the mathematical concepts. The written equation is correct, the mathematical procedure used to solve the equation is appropriate with all necessary work shown, and the final answer is correct.

2

Candy wants to buy herself a new bicycle that costs \$240. Candy has already saved \$32, but she needs to make a plan so she can save the rest of the money she needs. She decides to save the same amount of money,  $x$  dollars, each month for the next four months.

Write an equation that helps Candy determine the amount of money she must save each month.

Equation  $(240 - 32) / 4$

Solve the equation to find the amount of money she must save each month to meet her goal of buying a bicycle.

Show your work.

$$\frac{240 - 32}{4} = \frac{240}{4} - \frac{32}{4}$$

$$60 - 8 = 52$$

Answer \$ 52

Paper	RF Number	Score	Notes
g04	N/A	2	<b>Score Point 2</b>  This response is partially correct and addresses most aspects of the task, using mathematically sound procedures. An expression rather than an equation is written and it does not include a variable. However, the expression has been simplified correctly and the final answer is correct.

2

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Write an equation that helps Candy determine the amount of money she must save each month.

Equation  $208 \div 4 = x$

Solve the equation to find the amount of money she must save each month to meet her goal of buying a bicycle.

Show your work.

$$\begin{array}{r} 240 \\ - 32 \\ \hline 208 \end{array}$$

$$208 \div 4 = 54$$

Answer \$ 54.00

Paper	RF Number	Score	Notes
g05	N/A	2	<p><b>Score Point 2</b></p> <p>This response demonstrates partial understanding and addresses most aspects of the task, using mathematically sound procedures. The equation is partially correct; it does not account for the 208. The mathematical procedure used to determine the amount of money to be saved each month is mathematically sound; however, the division error results in an incorrect answer.</p>

Candy wants to buy herself a new bicycle that costs \$240. Candy has already saved \$32, but she needs to make a plan so she can save the rest of the money she needs. She decides to save the same amount of money,  $x$  dollars, each month for the next four months.

Write an equation that helps Candy determine the amount of money she must save each month.

Equation  $240 - 32 \div 4 = x$

Solve the equation to find the amount of money she must save each month to meet her goal of buying a bicycle.

Show your work.

$$240 - 8 = x$$

$$4 \overline{)32}$$

$$232 = x$$

Answer \$ 232

Paper	RF Number	Score	Notes
g06	N/A	2	<b>Score Point 2</b>  This response demonstrates partial understanding. The equation is missing the parentheses around $240 - 32$ . However, the correct order of operations is followed to solve the incorrect equation.



2

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Write an equation that helps Candy determine the amount of money she must save each month.

Equation  $x \div 4$

Solve the equation to find the amount of money she must save each month to meet her goal of buying a bicycle.

Show your work.

$$\begin{array}{r} 316 \\ - 240 \\ \hline 32 \end{array}$$

$x = 208$

Real  
 $208 \div 4 = \$57$   
 $200 \div 4 = 55$   
estimate

Answer \$ 57.00

Paper	RF Number	Score	Notes
g07	N/A	1	<p><b>Score Point 1</b></p> <p>This response exhibits many flaws, and demonstrates only a limited understanding of the question. There is no equation given and the expression <math>(x \div 4)</math> does not show any understanding. The procedure used to solve the equation is appropriate; however, there are two division errors – both for the estimate (<math>200 \div 4 = \\$55</math>) and for the equation identified as “real” (<math>208 \div 4 = \\$57</math>). The final answer (57.00) is incorrect.</p>

2

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Write an equation that helps Candy determine the amount of money she must save each month.

Equation \_\_\_\_\_

$$\begin{array}{r} 132 \\ + 208 \\ \hline 240 \end{array}$$

Solve the equation to find the amount of money she must save each month to meet her goal of buying a bicycle.

Show your work.

Answer \$ \$528

Paper	RF Number	Score	Notes
g08	N/A	1	<b>Score Point 1</b>  This response demonstrates only a limited understanding of the mathematical concepts. The equation is not provided and while the answer is correct, not all of the required work is provided.

2

Candy wants to buy herself a new bicycle that costs \$240. Candy has already saved \$32, but she needs to make a plan so she can save the rest of the money she needs. She decides to save the same amount of money,  $x$  dollars, each month for the next four months.

Write an equation that helps Candy determine the amount of money she must save each month.

Equation  $\$240 - 32 = 4x$

$$\begin{array}{r} \$240 \\ - 32 \\ \hline 208 \end{array}$$

Solve the equation to find the amount of money she must save each month to meet her goal of buying a bicycle.

Show your work.

$$240 \div 4 = 60$$

Answer  $\$60$  per month

Paper	RF Number	Score	Notes
g09	N/A	1	<b>Score Point 1</b>  This response demonstrates only a limited understanding. While some aspects of the task are addressed correctly, faulty reasoning results in an inadequate solution. The equation is incorrect and does not take into account the \$32 already saved. This reflects a lack of essential understanding of the underlying mathematical concept. However, that incorrect equation is solved correctly.

2

Candy wants to buy herself a new bicycle that costs \$240. Candy has already saved \$32, but she needs to make a plan so she can save the rest of the money she needs. She decides to save the same amount of money,  $x$  dollars, each month for the next four months.

Write an equation that helps Candy determine the amount of money she must save each month.

Equation  $x = 208$

Solve the equation to find the amount of money she must save each month to meet her goal of buying a bicycle.

Show your work.

$$\begin{array}{r} \cancel{\$240} \\ - \cancel{\$32} \\ \hline 208 \end{array}$$

Answer \$ 208

Paper	RF Number	Score	Notes
g10	N/A	0	<p><b>Score Point 0</b></p> <p>This response is incorrect. The initial equation is not correct and only the very first step of the process is completed. This results in an incorrect answer. Holistically, this is not sufficient to demonstrate even a limited understanding of the mathematical concepts embodied in the task.</p>



2

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Write an equation that helps Candy determine the amount of money she must save each month.

Equation  $\$32 + 4x = \$240$

Solve the equation to find the amount of money she must save each month to meet her goal of buying a bicycle.

Show your work.

Answer  $\$52$

Paper	RF Number	Score	Notes
g11	N/A	0	<b>Score Point 0</b>  This response is incorrect. The equation given is incorrect and while the final answer is correct, no correct work or mathematically appropriate process is shown that would lead to that answer.



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# **New York State Testing Program**

## **Mathematics Test**

### 2013 Turnkey Training

Grade 4 Extended-response (3-point)  
Sample Question

Practice Set



Candy wants to buy herself a new bicycle that costs \$240. Candy has already saved \$32, but she needs to make a plan so she can save the rest of the money she needs. She decides to save the same amount of money,  $x$  dollars, each month for the next four months.

Write an equation that helps Candy determine the amount of money she must save each month.

Equation  $100 + 100 + 40 = 240$

Solve the equation to find the amount of money she must save each month to meet her goal of buying a bicycle.

Show your work.

$$\begin{array}{r} 240 \\ - 32 \\ \hline 208 \end{array}$$

she still needs

$$\begin{array}{r} 180 \quad \begin{array}{l} 90 \\ 90 \\ 20 \\ 8 \end{array} \\ \hline 208 \end{array}$$

Answer \$ 90 one month, 90 the next, 20 the third, then 8.

**Practice Set 1**

**2**

Candy wants to buy herself a new bicycle that costs \$240. Candy has already saved \$32, but she needs to make a plan so she can save the rest of the money she needs. She decides to save the same amount of money,  $x$  dollars, each month for the next four months.

Write an equation that helps Candy determine the amount of money she must save each month.

Equation  $4x = 240 - 32$

Solve the equation to find the amount of money she must save each month to meet her goal of buying a bicycle.

Show your work.

$$\begin{array}{r} \$240 \\ - 32 \\ \hline 208 \end{array}$$

$$\begin{array}{r} 52 \\ 4 \overline{)208} \\ \underline{20} \phantom{0} \\ 08 \\ \underline{08} \\ 0 \end{array}$$

Answer \$ 52.00

Candy wants to buy herself a new bicycle that costs \$240. Candy has already saved \$32, but she needs to make a plan so she can save the rest of the money she needs. She decides to save the same amount of money,  $x$  dollars, each month for the next four months.

Write an equation that helps Candy determine the amount of money she must save each month.

Equation  $240 - 32 = 208 \div 4 = 52$

Solve the equation to find the amount of money she must save each month to meet her goal of buying a bicycle.

Show your work.

$$\begin{array}{r}
 240 \\
 - 32 \\
 \hline
 208
 \end{array}$$
  

$$\begin{array}{r}
 208 \\
 \div 4 \\
 \hline
 52
 \end{array}$$

Answer \$ 52

**Practice Set 3**



Candy wants to buy herself a new bicycle that costs \$240. Candy has already saved \$32, but she needs to make a plan so she can save the rest of the money she needs. She decides to save the same amount of money,  $x$  dollars, each month for the next four months.

Write an equation that helps Candy determine the amount of money she must save each month.

Equation  $\$240 - \$32 = \$208 \div 4 = x$

Solve the equation to find the amount of money she must save each month to meet her goal of buying a bicycle.

Show your work.

$$\begin{array}{r} \$52 \\ 4 \overline{)208} \\ \underline{-204} \\ 008 \\ \underline{-8} \\ 0 \end{array}$$

Answer \$ 52

**Practice Set 4**

**2**

Candy wants to buy herself a new bicycle that costs \$240. Candy has already saved \$32, but she needs to make a plan so she can save the rest of the money she needs. She decides to save the same amount of money,  $x$  dollars, each month for the next four months.

Write an equation that helps Candy determine the amount of money she must save each month.

Equation  $240 - 32 = x \cdot 4$

Solve the equation to find the amount of money she must save each month to meet her goal of buying a bicycle.

Show your work.

$$240 = x \cdot 4 + 32$$

$$240 = 36x$$

$$240 - 36 = 36x - 36$$

$$x = 204$$

Answer \$ 204