Domain: Operations and Algebraic Thinking

4.OA.A: Use the four operations with whole numbers to solve problems.

Calculator Availability: No

Use the information to complete the task.

Isabel has 120 minutes of free time. She uses it to play a game that takes 12 minutes per round. If Isabel plays 3 rounds of the game, how much free time will she have left?

Make an equation that can be used to determine the number of minutes of free time Isabel has left. Use M to represent the number of minutes. Move numbers and symbols to the lines to complete the task.

$$\underline{\hspace{4cm}} = \underline{\hspace{1cm}}$$

| 120 | 12 | 3 | M | $+$ | $-$ | $\times$ | $\div$ |

Alignment: 4.OA.A.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.

This item is a multistep problem in which students represent the solution using a variable for the unknown. While it is important that students be able to solve multistep problems, the standard also requires that students be able to translate word problems into equations and expressions.

Coherence: Students began solving and representing two-step problems in grade 1, when they solved and represented addition problems with three addends.[1.OA.A.2] This work continued in grade 2 and grade 3, when students solved and represented two-step word problems.[2.OA.A.1, 3.OA.D.8] Grade 4 is the first time that students are required to solve and represent multistep problems. Students will continue solving multistep problems in grade 7, when they solve problems with rational numbers[7.NS.A.3] and solve problems using numerical and algebraic equations.[7.EE.B.3]

Rigor: This item attends to conceptual understanding and application of real-world problems. The item attends to conceptual understanding because students represent a two-step problem using the four operations. The fact that students are interpreting and then representing a multistep problem using a variable makes this application of a real-world context more challenging than average.

Answer Key: This item has more than one acceptable correct response. One response is shown here.

Use the information to complete the task.

Isabel has 120 minutes of free time. She uses it to play a game that takes 12 minutes per round. If Isabel plays 3 rounds of the game, how much free time will she have left?

Make an equation that can be used to determine the number of minutes of free time Isabel has left. Use M to represent the number of minutes. Move numbers and symbols to the lines to complete the task.

$$120 \ - \ 12 \ \times \ 3 \ = \ M$$

$$+ \qquad\qquad \div$$

Learn More

Learn more with the Math Assessment Item Alignment Professional Development Modules.

All content linked to within this resource was free for use when this resource was published in August 2020. Over time, the organizations that manage that external content may move or remove it or change the permissions. If the content is no longer available, please email info@studentsachieve.net.