

ITEM SCORING CUSTOM OPERATORS

Revision History

Revision Description	Author/Modifier	Date
0.1 - First Draft Release	Jon Cohen Balaji Kodeswaran David Lopez de Quintana	November 17, 2014
0.2 - Added four additional EQ custom operators	Balaji Kodeswaran David Lopez de Quintana	November 19, 2014
0.3 - Added QTI 3 reference along with edits to bring document up to date with existing item types.	Alex Dean	June 26, 2023



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Introduction

Overview

The SmarterApp items are divided into three categories based on how they are scored:

1. Human scored: SA (short answer) and WER (writing extended response) items are intended to be human scored, so no machine scoring rubrics are provided for these item types.
2. Trivially scored: MC (multiple choice) and MS (multi-select) items are scored by comparing a student’s response with the “correct” response captured in the item XML itself.
3. Machine scored: EBSR (evidence-based selected response), HTQS (hot text selectable) and MI (match interaction) items provide external scoring machine rubric files that are scored using QTI response processing.
4. Machine scored with custom operators: EQ (equation), GI (grid) and TI (table interaction) item types that are scored using QTI response processing that is extended by custom operators. QTI provides a means of extending default response processing via custom operators as a mechanism.
5. Probabilistically scored: WER items containing essays can be scored with an open source essay scoring engine. However, unlike other machine scored items that use a scoring engine to deterministically score any compliant machine rubric, these items require a special machine rubric that is created by “training” the scoring engine with a training set of items that have been previously human scored. This type of item scoring is considered probabilistic as opposed to deterministic because (a) there must be a training process, and (b) the exact scores produced by this type scoring engine for a given student response cannot be predicted based on the contents of a rubric file, but is instead dependent on the training set used and the quality and accuracy of the human scores of the training set.

This document focuses on number 4 above, machine scored items with custom operators. It describes the custom operators used to score EQ, GI and TI item types. General QTI response processing is outside the scope of this document as this is well documented in various QTI standards (see reference 2).

References

Reference	
1	SmarterApp Assessment Item Format Specification V0.80 http://www.smarterapp.org/documents/SmarterApp_Assessment_Item_Format_Specification.pdf
2	IMS Question and Test Interoperability v3 Final Specification (1 May 2022) https://www.imslobal.org/sites/default/files/spec/qti/v3/info/index.html

CTRL Custom Operators

This section details general custom operators that are not specific to Grid (GI), Table Interaction (TI) and Equation (EQ) Equation item types. All custom operators in this section are of type = CTRL.

mapExpression

Custom Operator	Description
Function Name	mapExpression
Function Description	This applies the contained expressions to each element sequentially to each element of the collection identified in "container." All expression must return a Boolean value. Note that the symbol "@" can be used by expressions to reference each element in the set
Return Type	Container
Return Description	A container with the same basetype as the input container and an ordered cardinality

Attributes	Type	Description
container	Identifier	an identifier bound to a value with cardinality multiple or ordered

stringToFloat

Custom Operator	Description
Function Name	stringToFloat
Function Description	Parses a string and converts it to a floating point value
Return Type	Float
Return Description	A numerical value based on parsing of the input string, or NaN if the parse fails

Attributes	Type	Description
inputString	String	A string formatted as a numerical value

COUNTDOUBLEINRANGE

Custom Operator	Description
Function Name	COUNTDOUBLEINRANGE
Function Description	Takes a collection or comma-separated list of numeric values and counts the number of values within the specified range
Return Type	Integer

Custom Operator	Description
Return Description	The number of doubles in the specified range

Attributes	Type	Description
List	String or identifier	either: 1) a list of values consisting of parseable numeric values or numeric variable identifiers prefaced with a "\$", or 2) an identifier bound to a variable with basetype float or integer
Min	Float	minimum value included in the range
Max	Float	maximum value included in the range

COUNTBOOL

Custom Operator	Description
Function Name	COUNTBOOL
Function Description	Takes a collection or list of Boolean values and counts the number that are either true or false
Return Type	Integer
Return Description	The number of values that are specified

Attributes	Type	Description
List	String or identifier	either: 1) a list of values consisting of parseable Boolean values or Boolean identifiers prefaced with a "\$", or 2) an identifier bound to a variable with basetype Boolean
booleanValue	Boolean	true or false. The value to be matched.

MAXINT

Custom Operator	Description
Function Name	MAXINT
Function Description	Returns the maximum value of a set of integers
Return Type	Integer
Return Description	An integer representing the maximum value in the set if integers provided

Attributes	Type	Description
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Attributes	Type	Description
List	string or identifier	either: 1) a list of values consisting of parseable integer values or integer variable identifiers prefaced with a "\$", or 2) an identifier bound to a variable with basetype integer

MININT

Custom Operator	Description
Function Name	MININT
Function Description	Returns the minimum of a set of integers
Return Type	Integer
Return Description	The minimum value of a set of integer values

Attributes	Type	Description
List	string or identifier	either: 1) a list of values consisting of parseable integer values or integer variable identifiers prefaced with a "\$", or 2) an identifier bound to a variable with basetype integer

GRID Item Custom Operators

This section describes the custom operators used in response processing of SmarterApp Grid (GI) item type rubrics. All custom operators in this section are of type = GRAPHIC.

PREPROCESSRESPONSE

Custom Operator	Description
Function Name	PREPROCESSRESPONSE
Function Description	Translates graphic responses to a collection of strings representing the objects in the set
Return Type	basetype
Return Description	A basetype “string” with cardinality “ordered”

Attributes	Type	Description
Response	identifier	names the original XML response to be preprocessed

COUNTSIDES

Custom Operator	Description
Function Name	COUNTSIDES
Function Description	Counts the number of line segments that comprise the object
Return Type	Integer
Return Description	an integer representing the number of sides of the object. If the object passed in was not a graphic object or it was not an object comprised of line segments, zero is returned

Attributes	Type	Description
object	identifier	identifier bound to a string representing a graphic object

GETPOINT

Custom Operator	Description
Function Name	GETPOINT
Function Description	Gets a point object corresponding to the location of a point or atomic object in the response space
Return Type	Point

Custom Operator	Description
Return Description	A point in the response space, or null if an inappropriate object was passed in

Attributes	Type	Description
object	Identifier	Identifier bound to a string representing a point or an atomic object
pointIndex	Integer	The index of the specified point

INTERSECTSREGION

Custom Operator	Description
Function Name	INTERSECTSREGION
Function Description	Checks whether an object intersects a rectangular region. For usability reasons intersection is defined as within 5 pixels
Return Type	Boolean
Return Description	Boolean indicating whether the object intersected the region

Attributes	Type	Description
object	identifier	identifier bound to a string representing a graphic object
topY	Integer	top of the region
leftX	Integer	leftmost part of the region
bottomY	Integer	bottom of the region
rightX	Integer	rightmost part of the region

ISREGIONSELECTED

Custom Operator	Description
Function Name	ISREGIONSELECTED
Function Description	Determines if a region is selected
Return Type	Boolean
Return Description	Returns true if the region is selected, false otherwise

Attributes	Type	Description
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Attributes	Type	Description
region	Identifier	Identifier bound to a string representing a region

GETSELECTEDREGIONSCOUNT

Custom Operator	Description
Function Name	GETSELECTEDREGIONSCOUNT
Function Description	Returns the quantity of the regions within a region group that are selected
Return Type	Integer
Return Description	The number of selected regions within a region group

Attributes	Type	Description
regionGroup	Identifier	Identifier bound to a string representing a region group

GETSLOPE

Custom Operator	Description
Function Name	GETSLOPE
Function Description	Calculates the slope of a line
Return Type	Float
Return Description	A value representing the slope of the line. Returns NaN if the object is not a line.

Attributes	Type	Description
vector	Identifier	Identifier bound to a string representing a line

GETVECTOR

Custom Operator	Description
Function Name	GETVECTOR
Function Description	Returns the index-th vector of a multi-vector object. Vectors are sorted starting with the vector containing the top-most, left-most point, and moving clockwise. Where more than two line segments meet at the same point, the top-most, left-most comes first.
Return Type	String
Return Description	A string representation of the vector

Attributes	Type	Description
Order	Integer	Index of desired vector
Object	Identifier	Identifier bound to a string representing a graphic object

ISGRAPHICTYPE

Custom Operator	Description
Function Name	ISGRAPHICTYPE
Function Description	Determines if the object is a graphic object of the identified type
Return Type	Boolean
Return Description	Returns true if the graphic object is an object of the identified type

Attributes	Type	Description
Object	identifier	identifier bound to a string representing a graphic object
graphicType	string	must be one of the following: "PALETTEIMAGE", "VECTOR", "ARROW", "POINT"

GETLENGTH

Custom Operator	Description
Function Name	GETLENGTH
Function Description	Returns the length of the referenced vector
Return Type	Float
Return Description	A value indicating the length of the vector or NaN if anything but a vector is provided

Attributes	Type	Description
vector	identifier	Identifier bound to a string representing a vector.

GETNAME

Custom Operator	Description
Function Name	GETNAME

Custom Operator	Description
Function Description	Returns the name of a named graphic object
Return Type	String
Return Description	The name of the graphic object or an empty string if the graphic object is unnamed

Attributes	Type	Description
Object	Identifier	Identifier bound to a string representing a graphic object

INTERSECTSPPOINT

Custom Operator	Description
Function Name	INTERSECTSPPOINT
Function Description	Determines if the object intersects the designated point
Return Type	Boolean
Return Description	Returns true if the object intersects the designated point, false otherwise

Attributes	Type	Description
Object	Identifier	Identifier bound to a string representing a graphic object
X	Integer	x coordinate of the point to check the intersection against
Y	Integer	y coordinate of the point to check the intersection against
Tolerance	Float	Allowable distance from the point still considered intersecting in the same units used in the coordinate plane of the item

HASVERTEX

Custom Operator	Description
Function Name	HASVERTEX
Function Description	Determines if a point is among the vertices of an object
Return Type	Boolean
Return Description	Returns true if the point (x,y) is among the vertices of the object, false otherwise

Attributes	Type	Description
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Attributes	Type	Description
object	identifier	identifier bound to a string representing a graphic object
tolerance	float	allowable distance from the point still considered intersecting in the same units used in the coordinate plane of the item

TABLE Item Custom Operators

This section describes the custom operators used in response processing of SmarterApp Table Interaction (TI) item type rubrics. All custom operators in this section are of type = TABLE.

GETCOLUMN

Custom Operator	Description
Function Name	GETCOLUMN
Function Description	Obtains the requested column
Return Type	String
Return Description	A string representing the requested column. The string may be empty

Attributes	Type	Description
table	Identifier	identifier bound to a string representing a table
columnName	String	the name of the desired column

GETHEADERROW

Custom Operator	Description
Function Name	GETHEADERROW
Function Description	Obtains the header row of the table
Return Type	String
Return Description	A string representing the requested header row. The string may be empty

Attributes	Type	Description
table	identifier	identifier bound to a string representing a table

GETVALUENUMERIC

Custom Operator	Description
Function Name	GETVALUENUMERIC
Function Description	Obtains the numeric value of the indicated cell

Custom Operator	Description
Return Type	Float
Return Description	The numeric value of the indicated cell or NaN if the value cannot be successfully parsed

Attributes	Type	Description
tableVector	Identifier	identifier bound to a string representing a table
index	Integer	the index of the desired cell

EQUATION Item Custom Operators

This section describes the custom operators used in response processing of SmarterApp Equation (EQ) item type rubrics. All custom operators in this section are of type = EQ.

PREPROCESSRESPONSE

Custom Operator	Description
Function Name	PREPROCESSRESPONSE
Function Description	Translates equation responses to a collection of strings representing the objects in the set
Return Type	Basetype
Return Description	A basetype “string” with cardinality “ordered”

Attributes	Type	Description
Response	identifier	names the original XML response to be preprocessed

ISEQUIVALENT

Custom Operator	Description
Function Name	ISEQUIVALENT
Function Description	Compares the equation expression to an exemplar and determines if they are equivalent
Return Type	Boolean
Return Description	Returns true if the equation referenced by object is equivalent to the exemplar

Attributes	Type	Description
Object	Identifier	identifier referencing a string representing a mathematical expression
exemplar	String	string representing a mathematical expression of an exemplar
simplify	Boolean	Flag indicating that simplifications can be performed (e.g. $1+1=2$)

ISEQUIVALENTLOG

Custom Operator	Description
Function Name	ISEQUIVALENTLOG

Custom Operator	Description
Function Description	Compares the equation expression to an exemplar and determines if they are equivalent using properties of Logs
Return Type	Boolean
Return Description	Returns true if math expression object is equivalent to exemplar expression using properties of Logs

Attributes	Type	Description
Object	identifier	identifier referencing a string representing a mathematical expression
exemplar	string	string representing a mathematical expression of an exemplar
assumptions	Boolean	Flag indicating that bases are positive and exponents are real

ISEQUIVALENTTRIG

Custom Operator	Description
Function Name	ISEQUIVALENTTRIG
Function Description	Compares the equation expression to an exemplar and determines if they are equivalent using Trig identities
Return Type	Boolean
Return Description	Returns true if math expression object is equivalent to exemplar expression using Trig identities

Attributes	Type	Description
object	Identifier	identifier referencing a string representing a mathematical expression
exemplar	String	string representing a mathematical expression of an exemplar

ISEMPTY

Custom Operator	Description
Function Name	ISEMPTY
Function Description	Determines if a math expression is empty
Return Type	Boolean
Return Description	Returns true if math expression object is empty

Attributes	Type	Description
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Attributes	Type	Description
object	identifier	identifier referencing a string representing a mathematical expression

NUMBERFROMEXPRESSION

Custom Operator	Description
Function Name	NUMBERFROMEXPRESSION
Function Description	Converts the math expression object to a number
Return Type	double
Return Description	Returns the numerical value represented by the math expression or Double.NaN if the expression cannot be parsed

Attributes	Type	Description
object	identifier	identifier referencing a string representing a mathematical expression whose value is of interest

GETINEQUALITIESCOUNT

Custom Operator	Description
Function Name	GETINEQUALITIESCOUNT
Function Description	Determines the number of inequalities in a math expression
Return Type	Integer
Return Description	Returns the number of inequalities in a math expression object

Attributes	Type	Description
object	identifier	identifier referencing a string representing a mathematical expression

ISMATCH

Custom Operator	Description
Function Name	ISMATCH
Function Description	Determines if an expression can be matched to a parameterized pattern
Return Type	Boolean
Return Description	Returns true if expression can be matched by the given parameterized pattern

Attributes	Type	Description
object	identifier	identifier referencing a string representing an expression to be matched to a given pattern
pattern	string	A string representing a mathematical expression
parameters	string	Comma-separated parameters in the pattern (e.g. a,b,c)
constraints	string	Comma-separated constraints on parameter values (e.g. $a \geq 1$ and $a < 4$, $b = 1$ or $b = 2$, $c \neq 0$)
variables	string	Comma-separated variables in the pattern (e.g. x,t)
simplify	Boolean	Flag indicating that simplifications can be performed (e.g. $1+1=2$)

LINECONTAINS

Custom Operator	Description
Function Name	LINECONTAINS
Function Description	Returns true if line contains an expression equivalent to exemplar expression. For ex, <code>LineContains(8+8+8=24-2=2, 24-2=22)</code> would return true.
Return Type	Boolean
Return Description	True/False

Attributes	Type	Description
object	identifier	identifier referencing a string representing a mathematical expression
Exemplar	String	string representing a mathematical expression of an exemplar
Simplify	Boolean	Flag indicating that simplifications can be performed (e.g. $1+1=2$)

EXPRESSIONCONTAINS

Custom Operator	Description
Function Name	EXPRESSIONCONTAINS
Function Description	Determines if a given math expression object contains a given substring
Return Type	Boolean
Return Description	Returns true if the substring is found in the given math expression

Attributes	Type	Description
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Attributes	Type	Description
object	identifier	Identifier referencing a string representing a mathematical expression
string	String	Substring that we are looking for

EVALUATE

Custom Operator	Description
Function Name	EVALUATE
Function Description	Converts expression to floating-point approximation (decimal number)
Return Type	Float
Return Description	A decimal number that represents the expression or Double.NaN if it cannot be parsed.

Attributes	Type	Description
object	identifier	identifier referencing a string representing a mathematical expression

GETEQUATIONSCOUNT

Custom Operator	Description
Function Name	GETEQUATIONSCOUNT
Function Description	Determines the number of equations in a math expression object
Return Type	Integer
Return Description	An integer count of the equations in the input math expression object

Attributes	Type	Description
object	identifier	identifier referencing a string representing a mathematical expression

Example Grid Rubric (Type = GRAPHIC)

This section provides an example of a SmarterApp Grid item rubric that contains CTRL and GETSELECTEDREGIONSCOUNT custom operators.

```
<?xml version="1.0" encoding="UTF-8"?>
<qti-assessment-item xsi:schemaLocation="http://www.imsglobal.org/xsd/imsqtiasi_v3p0
https://purl.imsglobal.org/spec/qti/v3p0/schema/xsd/imsqti_asiv3p0_v1p0.xsd
http://www.w3.org/1998/Math/MathML
https://purl.imsglobal.org/spec/mathml/v3p0/schema/xsd/mathml3.xsd
http://www.w3.org/2001/10/synthesis
https://purl.imsglobal.org/spec/ssml/v1p1/schema/xsd/ssmlv1p1-core.xsd
http://www.w3.org/2001/XInclude https://purl.imsglobal.org/spec/w3/2001/schema/xsd/XInclude.xsd "
xmlns="http://www.imsglobal.org/xsd/imsqtiasi_v3p0" xmlns:m3="http://www.w3.org/1998/Math/MathML"
xmlns:ssml11="http://www.w3.org/2001/10/synthesis" xmlns:xi="http://www.w3.org/2001/XInclude"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" identifier="sbac-200-183419" title="183419"
xml:lang="en" tool-name="TIMS QTI 3.0 Export" tool-version="5.12.6" time-dependent="false">
  <qti-response-declaration base-type="string" cardinality="single" identifier="RESPONSE" />
  <qti-outcome-declaration base-type="float" cardinality="single" identifier="SCORE" normal-
minimum="0" normal-maximum="1">
    <qti-default-value>
      <qti-value>0</qti-value>
    </qti-default-value>
  </qti-outcome-declaration>
  <qti-outcome-declaration base-type="string" cardinality="ordered" identifier="PP_RESPONSE" />
  <qti-outcome-declaration identifier="grp1" base-type="string" cardinality="ordered" />
  <qti-outcome-declaration identifier="grp1FirstObject" base-type="string" cardinality="single"
/>
  <qti-outcome-declaration identifier="grp1NumSelectedRegions" base-type="float"
cardinality="single" />
  <qti-stylesheet href="sbac-qti-assessment.css" type="text/css"/>
  <qti-item-body class="sbac sbac-global-item-catalog-ref" data-catalog-idref="item-183419-
global">
    <div class="qti-layout-row">
      <div class="qti-layout-offset2 qti-layout-col8">
        <div class="qti-layout-row">
          <div class="sbac-left-pane qti-layout-col14">
            <div class="prompt">
              <p>
                <span data-catalog-idref="glossary-term-1">Click</span> the
spaces of the figure to shade
                <span data-catalog-idref="item-183419-catalog-0">
                  
                  <m3:math>
                    <m3:semantics>
                      <m3:mfrac>
                        <m3:mn>3</m3:mn>
                        <m3:mn>5</m3:mn>
                      </m3:mfrac>
                      <m3:annotation encoding="StarMath 5.0">3 over
5</m3:annotation>
                    </m3:semantics>
                  </m3:math>
                </span> of Figure
              </p>
            </div>
          </div>
        </div>
      </div>
    </div>
  </qti-item-body>
</qti-assessment-item>
```

```

        <span data-qti-suppress-tts="computer-read-aloud" class="qti-
visually-hidden">Microclimate</span>
        <span data-catalog-idref="item-183419-catalog-1" aria-
hidden="true">R.</span>
    </p>
</div>
</div>
<div class="sbac-right-pane qti-layout-col8">
    <qti-custom-interaction response-identifier="RESPONSE" data-interaction-
identifier="sbac:grid-item" class="tei-sbgrid">
    <custom-option>
        <![CDATA[<Question id="3419" ITSVer="0" ScoreEngineVer="1"
version="2.0" xmlns=""><Description /><QuestionPart id="1"><Options><ShowButtons
/><GridColor>None</GridColor><GridSpacing>10,N</GridSpacing><UpdateLayout><Ca
nvasWidth>500</CanvasWidth><CanvasHeight>410</CanvasHeight><PaletteWidth>75</PaletteWidth><Center
Image>false</CenterImage><ProperLineGeometry>false</ProperLineGeometry><ScaleImage>false</ScaleIm
age></Options><Text /><ObjectMenuIcons
/><ImageSpec><FileSpec>item_3419_v0_Background_png16malph.png</FileSpec><Position>0,0</Position>
</ImageSpec><HotSpots><Regions><Region name="a1" shape="rect" coords="126, 50, 374, 77"><Event
name="select"><Styles fill="black" fill-opacity="0.3" stroke="white" stroke-width="0" stroke-
opacity="" stroke-dasharray="" /></Event></Region><Region name="a2" shape="rect" coords="126, 77,
374, 105"><Event name="select"><Styles fill="black" fill-opacity="0.3" stroke="white" stroke-
width="0" stroke-opacity="" stroke-dasharray="" /></Event></Region><Region name="a3" shape="rect"
coords="126, 106, 374, 133"><Event name="select"><Styles fill="black" fill-opacity="0.3"
stroke="white" stroke-width="0" stroke-opacity="" stroke-dasharray="" /></Event></Region><Region
name="a4" shape="rect" coords="126, 134, 374, 161"><Event name="select"><Styles fill="black"
fill-opacity="0.3" stroke="white" stroke-width="0" stroke-opacity="" stroke-dasharray=""
/></Event></Region><Region name="a5" shape="rect" coords="126, 162, 374, 189"><Event
name="select"><Styles fill="black" fill-opacity="0.3" stroke="white" stroke-width="0" stroke-
opacity="" stroke-dasharray="" /></Event></Region><Region name="a6" shape="rect" coords="126,
190, 374, 217"><Event name="select"><Styles fill="black" fill-opacity="0.3" stroke="white"
stroke-width="0" stroke-opacity="" stroke-dasharray="" /></Event></Region><Region name="a7"
shape="rect" coords="126, 218, 374, 245"><Event name="select"><Styles fill="black" fill-
opacity="0.3" stroke="white" stroke-width="0" stroke-opacity="" stroke-dasharray=""
/></Event></Region><Region name="a8" shape="rect" coords="126, 246, 374, 273"><Event
name="select"><Styles fill="black" fill-opacity="0.3" stroke="white" stroke-width="0" stroke-
opacity="" stroke-dasharray="" /></Event></Region><Region name="a9" shape="rect" coords="126,
273, 374, 301"><Event name="select"><Styles fill="black" fill-opacity="0.3" stroke="white"
stroke-width="0" stroke-opacity="" stroke-dasharray="" /></Event></Region><Region name="a10"
shape="rect" coords="126, 302, 374, 329"><Event name="select"><Styles fill="black" fill-
opacity="0.3" stroke="white" stroke-width="0" stroke-opacity="" stroke-dasharray=""
/></Event></Region></Regions><RegionGroups><RegionGroup name="grp1" min="0" max="0"><Include
region="a1" /><Include region="a2" /><Include region="a3" /><Include region="a4" /><Include
region="a5" /><Include region="a6" /><Include region="a7" /><Include region="a8" /><Include
region="a9" /><Include region="a10"
/></RegionGroup></RegionGroups></HotSpots></QuestionPart><PreSetAnswerPart><AnswerSet><Question
id="3419"><QuestionPart id="1"><ObjectSet /><SnapPoint
/></QuestionPart></Question></AnswerSet></PreSetAnswerPart></Question>]]>
    </custom-option>
</qti-custom-interaction>
</div>
</div>
</div>
</div>
<div class="qti-rubric-block class="qti-rubric-discretionary-placement" use="scoring" view="scorer">
    <qti-content-body>
        <![CDATA[<p style="color:;>Exemplar:</p><p style="color:;> </p><p style="color:;></p><p style="color:;> </p><p
style="color:;>For this item, a full-credit response includes</p><p
style="color:;> </p><ul><li><p style="color:;>The student clicks any 6 spaces. (1
point)</p></li></ul>]]>
    </qti-content-body>
</qti-rubric-block>
</qti-item-body>
<qti-catalog-info>
    <qti-catalog id="item-183419-catalog-0">
        <qti-card support="spoken">

```

```

    <qti-card-entry data-reading-type="computer-read-aloud">
      <qti-html-content>three fifths</qti-html-content>
    </qti-card-entry>
  </qti-card>
</qti-catalog>
<qti-catalog id="item-183419-catalog-1">
  <qti-card support="spoken">
    <qti-card-entry data-reading-type="computer-read-aloud">
      <qti-html-content>r, This is an interactive image, the main answer space
contains a figure, the figure is labeled, Figure r,</qti-html-content>
    </qti-card-entry>
  </qti-card>
</qti-catalog>
<qti-catalog id="item-183419-global">
  <qti-card support="sign-language">
    <qti-card-entry default="true" xml:lang="ase">
      <qti-html-content>
        <video controls="true">
          <source src="item_183419_ASL_STEM.mp4" type="video/mp4"/>
          <source src="item_183419_ASL_STEM.webm" type="video/webm"/>Your browser
does not support the video element.
        </video>
      </qti-html-content>
    </qti-card-entry>
  </qti-card>
</qti-catalog>
<qti-catalog id="glossary-term-1">
  <qti-card support="keyword-translation">
    <qti-card-entry data-list-code="TDS_WL_ArabicGloss" xml:lang="ar" data-list-
type="glossary">
      <qti-html-content>
        <span>انقر</span>
        <audio controls="true">
          <source src="glossary/item_183419_click_1_arabic.m4a" type="audio/mp4"/>
          <source src="glossary/item_183419_click_1_arabic.ogg" type="audio/ogg"/>
        </audio>
      </div>
    </qti-html-content>
  </qti-card-entry>
  <qti-card-entry data-list-code="TDS_WL_BurmeseGloss" xml:lang="my" data-list-
type="glossary">
    <qti-html-content>
      <span>နှိပ်</span>
      <audio controls="true">
        <source src="glossary/item_183419_click_1_burmese.m4a" type="audio/mp4"/>
        <source src="glossary/item_183419_click_1_burmese.ogg" type="audio/ogg"/>
      </audio>
    </div>
  </qti-html-content>
</qti-card-entry>
  <qti-card-entry data-list-code="TDS_WL_CantoneseGloss" xml:lang="yue" data-list-
type="glossary">
    <qti-html-content>
      <span>点击</span>,
      <span>點擊</span>
      <audio controls="true">
        <source src="glossary/item_183419_click_1_cantonese.m4a"
type="audio/mp4"/>
        <source src="glossary/item_183419_click_1_cantonese.ogg"
type="audio/ogg"/>
      </audio>
    </div>
  </qti-html-content>
</qti-card-entry>
  <qti-card-entry data-list-code="TDS_WL_TagalGloss" xml:lang="tl" data-list-
type="glossary">

```

```

        <span>I -click</span>
        <audio controls="true">
            <source src="glossary/item_183419_click_1_filipino.m4a"
type="audio/mp4"/>
            <source src="glossary/item_183419_click_1_filipino.ogg"
type="audio/ogg"/>
        </audio>,
    </div>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_HmongGloss" xml:lang="hmn" data-list-
type="glossary">
    <qti-html-content>
        <span>Nyem, Nias</span>,
        <span>Nyem, Nas</span>
        <audio controls="true">
            <source src="glossary/item_183419_click_1_hmong.m4a" type="audio/mp4"/>
            <source src="glossary/item_183419_click_1_hmong.ogg" type="audio/ogg"/>
        </audio>
    </div>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_KoreanGloss" xml:lang="ko" data-list-
type="glossary">
    <qti-html-content>
        <span>클릭하다</span>
        <audio controls="true">
            <source src="glossary/item_183419_click_1_korean.m4a" type="audio/mp4"/>
            <source src="glossary/item_183419_click_1_korean.ogg" type="audio/ogg"/>
        </audio>
    </div>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_MandarinGloss" xml:lang="cmn" data-list-
type="glossary">
    <qti-html-content>
        <span>点击</span>,
        <span>按</span>
        <audio controls="true">
            <source src="glossary/item_183419_click_1_mandarin.m4a"
type="audio/mp4"/>
            <source src="glossary/item_183419_click_1_mandarin.ogg"
type="audio/ogg"/>
        </audio>
    </div>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_PunjabiGloss" xml:lang="pa" data-list-
type="glossary">
    <qti-html-content>
        <span>ਕਲਕ ਕਰੋ</span>
        <audio controls="true">
            <source src="glossary/item_183419_click_1_punjabi_a.m4a"
type="audio/mp4"/>
            <source src="glossary/item_183419_click_1_punjabi_a.ogg"
type="audio/ogg"/>
        </audio>,
        <span> ਕਲਿਕ ਕਰੋ</span>
        <audio controls="true">
            <source src="glossary/item_183419_click_1_punjabi_b.m4a"
type="audio/mp4"/>
            <source src="glossary/item_183419_click_1_punjabi_b.ogg"
type="audio/ogg"/>
        </audio>
    </div>

```

```

    </qti-html-content>
  </qti-card-entry>
  <qti-card-entry data-list-code="TDS_WL_RussianGloss" xml:lang="ru" data-list-
type="glossary">
    <qti-html-content>
      <span>Нажмите</span>
      <audio controls="true">
        <source src="glossary/item_183419_click_1_russian.m4a" type="audio/mp4"/>
        <source src="glossary/item_183419_click_1_russian.ogg" type="audio/ogg"/>
      </audio>
    </div>
  </qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_SomaliGloss" xml:lang="so" data-list-
type="glossary">
  <qti-html-content>
    <span>Guji</span>
    <audio controls="true">
      <source src="glossary/item_183419_click_1_somali.m4a" type="audio/mp4"/>
      <source src="glossary/item_183419_click_1_somali.ogg" type="audio/ogg"/>
    </audio>
  </div>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_ESNGlossary" xml:lang="es" data-list-
type="glossary">
  <qti-html-content>
    <span>Haz clic</span>
    <audio controls="true">
      <source src="glossary/item_183419_click_1_spanish.m4a" type="audio/mp4"/>
      <source src="glossary/item_183419_click_1_spanish.ogg" type="audio/ogg"/>
    </audio>
  </div>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_UkrainianGloss" xml:lang="uk" data-list-
type="glossary">
  <qti-html-content>
    <span>Нажисніть</span>
    <audio controls="true">
      <source src="glossary/item_183419_click_1_ukrainian.m4a"
type="audio/mp4"/>
      <source src="glossary/item_183419_click_1_ukrainian.ogg"
type="audio/ogg"/>
    </audio>
  </div>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_VietnameseGloss" xml:lang="vi" data-list-
type="glossary">
  <qti-html-content>
    <span>Nhấp</span>
    <audio controls="true">
      <source src="glossary/item_183419_click_1_vietnamese.m4a"
type="audio/mp4"/>
      <source src="glossary/item_183419_click_1_vietnamese.ogg"
type="audio/ogg"/>
    </audio>
  </div>
</qti-html-content>
</qti-card-entry>
</qti-card>
</qti-catalog>
</qti-catalog-info>
<qti-response-processing>
  <qti-set-outcome-value identifier="PP_RESPONSE">

```



```

    <qti-custom-operator class="qti.sbac.customOperators.GRAPHIC.PREPROCESSRESPONSE"
definition="response=RESPONSE" />
  </qti-set-outcome-value>
  <qti-set-outcome-value identifier="grp1">
    <qti-custom-operator class="qti.sbac.customOperators.CTRL.mapExpression"
definition="container=PP_RESPONSE">
      <qti-base-value base-type="string">
        <![CDATA[<qti-string-match case-sensitive="true"><qti-base-value base-
type="string">grp1</qti-base-value><qti-custom-operator
class="qti.sbac.customOperators.GRAPHIC.GETNAME" definition="object=@" /></qti-string-match]]>
          </qti-base-value>
        </qti-custom-operator>
      </qti-set-outcome-value>
      <qti-set-outcome-value identifier="grp1FirstObject">
        <qti-index n="1">
          <qti-variable identifier="grp1" />
        </qti-index>
      </qti-set-outcome-value>
      <qti-set-outcome-value identifier="grp1NumSelectedRegions">
        <qti-custom-operator class="qti.sbac.customOperators.GRAPHIC.GETSELECTEDREGIONS COUNT"
definition="region-group=grp1FirstObject" />
      </qti-set-outcome-value>
      <qti-response-condition>
        <qti-response-if>
          <qti-equal>
            <qti-variable identifier="grp1NumSelectedRegions" />
            <qti-base-value base-type="float">6</qti-base-value>
          </qti-equal>
          <qti-set-outcome-value identifier="SCORE">
            <qti-base-value base-type="float">1</qti-base-value>
          </qti-set-outcome-value>
        </qti-response-if>
      </qti-response-condition>
    </qti-response-processing>
  </qti-assessment-item>

```

Example Equation Rubric (Type = EQ)

This section provides an example of a SmarterApp Equation item rubric that contains the ISEQUIVALENT custom operator.

```
<?xml version="1.0" encoding="UTF-8"?>
<qti-assessment-item xsi:schemaLocation="http://www.imsglobal.org/xsd/imsqtiasi_v3p0
https://purl.imsglobal.org/spec/qti/v3p0/schema/xsd/imsqti_asiv3p0_v1p0.xsd
http://www.w3.org/1998/Math/MathML
https://purl.imsglobal.org/spec/mathml/v3p0/schema/xsd/mathml3.xsd
http://www.w3.org/2001/10/synthesis
https://purl.imsglobal.org/spec/ssml/v1p1/schema/xsd/ssmlv1p1-core.xsd
http://www.w3.org/2001/XInclude https://purl.imsglobal.org/spec/w3/2001/schema/xsd/XInclude.xsd "
xmlns="http://www.imsglobal.org/xsd/imsqtiasi_v3p0" xmlns:m3="http://www.w3.org/1998/Math/MathML"
xmlns:ssml11="http://www.w3.org/2001/10/synthesis" xmlns:xi="http://www.w3.org/2001/XInclude"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" identifier="sbac-200-183216" title="183216"
xml:lang="en" tool-name="TIMS QTI 3.0 Export" tool-version="5.12.6" time-dependent="false">
  <qti-response-declaration identifier="RESPONSE" cardinality="single" base-type="string"/>
  <qti-outcome-declaration identifier="SCORE" cardinality="single" base-type="float" normal-
maximum="1.0" normal-minimum="0.0">
    <qti-default-value>
      <qti-value>0</qti-value>
    </qti-default-value>
  </qti-outcome-declaration>
  <qti-outcome-declaration identifier="Responses" cardinality="ordered" base-type="string"/>
  <qti-outcome-declaration identifier="Response1" cardinality="single" base-type="string"/>
  <qti-stylesheet href="sbac-qti-assessment.css" type="text/css"/>
  <qti-item-body class="sbac sbac-global-item-catalog-ref" data-catalog-idref="item-183216-
global">
    <div class="qti-layout-row">
      <div class="qti-layout-offset2 qti-layout-col8">
        <div class="prompt">
          <p>The line plot shows the distances, in miles, Rex
            <span data-catalog-idref="glossary-term-4">walked</span> on seven
            <span data-qti-suppress-tts="computer-read-aloud" class="qti-visually-
hidden">days.</span>
            <span data-catalog-idref="item-183216-catalog-0" aria-
hidden="true">days.</span>
          </p>
          <br/>
          <p>
            
            </p>
            <p data-qti-suppress-tts="computer-read-aloud" id="img-descript-2"
class="qti-visually-hidden">The line plot is titled: Distances Rex Walked (mi). The line plot has
a range from 1 1/4 to 3 1/4, increasing in increments of 2/4. The data points are: 1 3/4: X; 2:
X; 2 1/2: X X X; 3: X; 3 1/4 X. Below the plot it reads, Each x, represents one day. </p>
            <br/>
            <p>
              <span data-catalog-idref="glossary-term-1">Enter</span> the
              <span data-catalog-idref="glossary-term-2">total</span> distance, in
              miles, Rex
              <span data-catalog-idref="glossary-term-4">walked</span> for
              <span data-catalog-idref="glossary-term-3">all</span> seven
              <span data-qti-suppress-tts="computer-read-aloud" class="qti-visually-
hidden">days.</span>
              <span data-catalog-idref="item-183216-catalog-2" aria-
hidden="true">days.</span>
            </p>
          </div>
        </div>
      </div>
    </div>
```

```

<qti-custom-interaction response-identifier="RESPONSE" data-interaction-
identifier="sbac:equation" class="tei-sbee">
  <custom-option>
    <![CDATA[<editorconfig xmlns=""><tabConfig><tab
xmlns="http://www.w3.org/1999/xhtml" title="Basic"><grid cols="3" title="Numbers"><item
title="one" aria-label="one">1</item><item title="two" aria-label="two">2</item><item
title="three" aria-label="three">3</item><item title="four" aria-label="four">4</item><item
title="five" aria-label="five">5</item><item title="six" aria-label="six">6</item><item
title="seven" aria-label="seven">7</item><item title="eight" aria-label="eight">8</item><item
title="nine" aria-label="nine">9</item><item title="zero" aria-label="zero">0</item><item
title="period" aria-label="period">.</item><item title="fraction" aria-label="fraction" cmd="/"
class="mje_button_fraction"/></grid></tab></tabConfig><editorRow><math
xmlns="http://www.w3.org/1998/Math/MathML"
title=""><mstyle><mo>##</mo></mstyle></math></editorRow></editorconfig>]]>
  </custom-option>
</qti-custom-interaction>
</div>
</div>
<qti-rubric-block class="qti-rubric-discretionary-placement" use="scoring" view="scorer">
  <qti-content-body>
    <![CDATA[<p><m3:math><m3:mn>17</m3:mn><m3:mfrac><m3:mn>1</m3:mn><m3:mn>2</m3:mn></m3:mfrac></m3:math
> or equivalent</p>]]>
  </qti-content-body>
</qti-rubric-block>
</qti-item-body>
<qti-catalog-info>
  <qti-catalog id="item-183216-catalog-0">
    <qti-card support="spoken">
      <qti-card-entry data-reading-type="computer-read-aloud">
        <qti-html-content>days, </qti-html-content>
      </qti-card-entry>
    </qti-card>
  </qti-catalog>
  <qti-catalog id="item-183216-catalog-1">
    <qti-card support="spoken">
      <qti-card-entry data-reading-type="computer-read-aloud">
        <qti-html-content>The line plot is titled, Distances Rex walked, miles. The line
plot has a range from one and one fourth to three and one fourth, increasing in increments of two
fourths. Below the line plot it reads, Each x, represents one day. </qti-html-content>
      </qti-card-entry>
    </qti-card>
  </qti-catalog>
  <qti-catalog id="item-183216-catalog-2">
    <qti-card support="spoken">
      <qti-card-entry data-reading-type="computer-read-aloud">
        <qti-html-content>days. From left to right and top to bottom the equation tool
reads, 1, 2, 3, 4, 5, 6, 7, 8, 9, 0, point, box over box.</qti-html-content>
      </qti-card-entry>
    </qti-card>
  </qti-catalog>
  <qti-catalog id="item-183216-global">
    <qti-card support="ext:sbac-braille-files">
      <qti-card-entry data-math-representation="nemeth" xml:lang="en" data-
contracted="true" data-type="PRN" data-format="EBAE">
        <qti-file-href mime-type="application/braille">item_183216_enu_ecn.prn</qti-file-
href>
    </qti-card>
  </qti-catalog>

```

```

        </qti-card-entry>
        <qti-card-entry data-math-representation="nemeth" xml:lang="en" data-
contracted="true" data-type="PRN" data-format="UEB">
          <qti-file-href mime-type="application/braille">item_183216_enu_ucn.prn</qti-file-
href>
        </qti-card-entry>
        <qti-card-entry data-math-representation="nemeth" xml:lang="en" data-
contracted="false" data-type="PRN" data-format="EBAE">
          <qti-file-href mime-type="application/braille">item_183216_enu_exn.prn</qti-file-
href>
        </qti-card-entry>
        <qti-card-entry data-math-representation="nemeth" xml:lang="en" data-
contracted="false" data-type="PRN" data-format="UEB">
          <qti-file-href mime-type="application/braille">item_183216_enu_uxn.prn</qti-file-
href>
        </qti-card-entry>
        <qti-card-entry data-math-representation="UEB" xml:lang="en" data-contracted="true"
data-type="PRN" data-format="UEB">
          <qti-file-href mime-type="application/braille">item_183216_enu_uct.prn</qti-file-
href>
        </qti-card-entry>
        <qti-card-entry data-math-representation="UEB" xml:lang="en" data-contracted="false"
data-type="PRN" data-format="UEB">
          <qti-file-href mime-type="application/braille">item_183216_enu_uxt.prn</qti-file-
href>
        </qti-card-entry>
      </qti-card>
      <qti-card support="sign-language">
        <qti-card-entry default="true" xml:lang="ase">
          <qti-html-content>
            <video controls="true">
              <source src="item_183216_ASL_STEM.mp4" type="video/mp4"/>
              <source src="item_183216_ASL_STEM.webm" type="video/webm"/>Your browser
does not support the video element.
            </video>
          </qti-html-content>
        </qti-card-entry>
      </qti-card>
    </qti-catalog>
    <qti-catalog id="glossary-term-1">
      <qti-card support="keyword-translation">
        <qti-card-entry data-list-code="TDS_WL_ArabicGloss" xml:lang="ar" data-list-
type="glossary">
          <qti-html-content>
            <span>أدخل</span>
            <audio controls="true">
              <source src="glossary/item_183216_enter_1_arabic.m4a" type="audio/mp4"/>
              <source src="glossary/item_183216_enter_1_arabic.ogg" type="audio/ogg"/>
            </audio>
          </div>
        </qti-html-content>
      </qti-card-entry>
      <qti-card-entry data-list-code="TDS_WL_BurmeseGloss" xml:lang="my" data-list-
type="glossary">
        <qti-html-content>
          <span>ထည့်ဝါ</span>
          <audio controls="true">
            <source src="glossary/item_183216_enter_1_burmese.m4a" type="audio/mp4"/>
            <source src="glossary/item_183216_enter_1_burmese.ogg" type="audio/ogg"/>
          </audio>
        </div>
      </qti-html-content>
    </qti-card-entry>
    <qti-card-entry data-list-code="TDS_WL_CantoneseGloss" xml:lang="yue" data-list-
type="glossary">
      <qti-html-content>

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```

        <span>輸入</span>,
        <span>輸入</span>
        <audio controls="true">
            <source src="glossary/item_183216_enter_1_cantonese.m4a"
type="audio/mp4"/>
            <source src="glossary/item_183216_enter_1_cantonese.ogg"
type="audio/ogg"/>
        </audio>
    </div>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_TagalGloss" xml:lang="tl" data-list-
type="glossary">
    <qti-html-content>
        <span>ikabil</span>
        <audio controls="true">
            <source src="glossary/item_183216_enter_1_filipino_a.m4a"
type="audio/mp4"/>
            <source src="glossary/item_183216_enter_1_filipino_a.ogg"
type="audio/ogg"/>
        </audio>,
        <span> ilagay </span>
        <audio controls="true">
            <source src="glossary/item_183216_enter_1_filipino_b.m4a"
type="audio/mp4"/>
            <source src="glossary/item_183216_enter_1_filipino_b.ogg"
type="audio/ogg"/>
        </audio>
    </div>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_HmongGloss" xml:lang="hmn" data-list-
type="glossary">
    <qti-html-content>
        <span>Nkag</span>,
        <span>Nkaag</span>
        <audio controls="true">
            <source src="glossary/item_183216_enter_1_hmong.m4a" type="audio/mp4"/>
            <source src="glossary/item_183216_enter_1_hmong.ogg" type="audio/ogg"/>
        </audio>
    </div>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_KoreanGloss" xml:lang="ko" data-list-
type="glossary">
    <qti-html-content>
        <span>쓰다</span>,
        <span>입력하다</span>
        <audio controls="true">
            <source src="glossary/item_183216_enter_1_korean.m4a" type="audio/mp4"/>
            <source src="glossary/item_183216_enter_1_korean.ogg" type="audio/ogg"/>
        </audio>
    </div>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_MandarinGloss" xml:lang="cmn" data-list-
type="glossary">
    <qti-html-content>
        <span>輸入</span>,
        <span>填寫, 輸入, 填写 </span>
        <audio controls="true">
            <source src="glossary/item_183216_enter_1_mandarin.m4a"
type="audio/mp4"/>
            <source src="glossary/item_183216_enter_1_mandarin.ogg"
type="audio/ogg"/>

```

```

        </audio>
      </div>
    </qti-html-content>
  </qti-card-entry>
  <qti-card-entry data-list-code="TDS_WL_PunjabiGloss" xml:lang="pa" data-list-
type="glossary">
    <qti-html-content>
      <span>ਜੁਲਾ</span>
      <audio controls="true">
        <source src="glossary/item_183216_enter_1_punjabi_a.m4a"
type="audio/mp4"/>
        <source src="glossary/item_183216_enter_1_punjabi_a.ogg"
type="audio/ogg"/>
      </audio>,
      <span>ਦਾਖਲ ਕਰੋ</span>
      <audio controls="true">
        <source src="glossary/item_183216_enter_1_punjabi_b.m4a"
type="audio/mp4"/>
        <source src="glossary/item_183216_enter_1_punjabi_b.ogg"
type="audio/ogg"/>
      </audio>
    </div>
  </qti-html-content>
</qti-card-entry>
  <qti-card-entry data-list-code="TDS_WL_RussianGloss" xml:lang="ru" data-list-
type="glossary">
    <qti-html-content>
      <span>Введите </span>
      <audio controls="true">
        <source src="glossary/item_183216_enter_1_russian.m4a" type="audio/mp4"/>
        <source src="glossary/item_183216_enter_1_russian.ogg" type="audio/ogg"/>
      </audio>
    </div>
  </qti-html-content>
</qti-card-entry>
  <qti-card-entry data-list-code="TDS_WL_SomaliGloss" xml:lang="so" data-list-
type="glossary">
    <qti-html-content>
      <span>Gal</span>
      <audio controls="true">
        <source src="glossary/item_183216_enter_1_somali.m4a" type="audio/mp4"/>
        <source src="glossary/item_183216_enter_1_somali.ogg" type="audio/ogg"/>
      </audio>
    </div>
  </qti-html-content>
</qti-card-entry>
  <qti-card-entry data-list-code="TDS_WL_ESNGlossary" xml:lang="es" data-list-
type="glossary">
    <qti-html-content>
      <span>Escribe</span>
      <audio controls="true">
        <source src="glossary/item_183216_enter_1_spanish.m4a" type="audio/mp4"/>
        <source src="glossary/item_183216_enter_1_spanish.ogg" type="audio/ogg"/>
      </audio>
    </div>
  </qti-html-content>
</qti-card-entry>
  <qti-card-entry data-list-code="TDS_WL_UkrainianGloss" xml:lang="uk" data-list-
type="glossary">
    <qti-html-content>
      <span>Введіть </span>
      <audio controls="true">
        <source src="glossary/item_183216_enter_1_ukrainian.m4a"
type="audio/mp4"/>
        <source src="glossary/item_183216_enter_1_ukrainian.ogg"
type="audio/ogg"/>
      </audio>
    </div>
  </qti-html-content>
</qti-card-entry>

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        <div/>
      </qti-html-content>
    </qti-card-entry>
    <qti-card-entry data-list-code="TDS_WL_VietnameseGloss" xml:lang="vi" data-list-
type="glossary">
      <qti-html-content>
        <span>Điền</span>
        <audio controls="true">
          <source src="glossary/item_183216_enter_1_vietnamese.m4a"
type="audio/mp4"/>
          <source src="glossary/item_183216_enter_1_vietnamese.ogg"
type="audio/ogg"/>
        </audio>
      </div/>
    </qti-html-content>
  </qti-card-entry>
  <qti-card-entry data-list-code="TDS_ILG1" data-list-type="illustration">
    <qti-html-content>
      
    </qti-html-content>
  </qti-card-entry>
</qti-card>
</qti-catalog>
<qti-catalog id="glossary-term-2">
  <qti-card support="keyword-translation">
    <qti-card-entry data-list-code="TDS_WL_ArabicGloss" xml:lang="ar" data-list-
type="glossary">
      <qti-html-content>
        <span>الإجمالي</span>
        <audio controls="true">
          <source src="glossary/item_183216_total_2_arabic.m4a" type="audio/mp4"/>
          <source src="glossary/item_183216_total_2_arabic.ogg" type="audio/ogg"/>
        </audio>
      </div/>
    </qti-html-content>
  </qti-card-entry>
  <qti-card-entry data-list-code="TDS_WL_BurmeseGloss" xml:lang="my" data-list-
type="glossary">
    <qti-html-content>
      <span>စုစုပေါင်း</span>
      <audio controls="true">
        <source src="glossary/item_183216_total_2_burmese.m4a" type="audio/mp4"/>
        <source src="glossary/item_183216_total_2_burmese.ogg" type="audio/ogg"/>
      </audio>
    </div/>
  </qti-html-content>
</qti-card-entry>
  <qti-card-entry data-list-code="TDS_WL_CantoneseGloss" xml:lang="yue" data-list-
type="glossary">
    <qti-html-content>
      <span>總</span>,
      <span>總</span>
      <audio controls="true">
        <source src="glossary/item_183216_total_2_cantonese.m4a"
type="audio/mp4"/>
        <source src="glossary/item_183216_total_2_cantonese.ogg"
type="audio/ogg"/>
      </audio>
    </div/>
  </qti-html-content>
</qti-card-entry>
  <qti-card-entry data-list-code="TDS_WL_TagalGloss" xml:lang="tl" data-list-
type="glossary">
    <qti-html-content>
      <span>kabuuang</span>
      <audio controls="true">

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type="audio/mp4"/>
type="audio/ogg"/>
<source src="glossary/item_183216_total_2_filipino_a.m4a"
<source src="glossary/item_183216_total_2_filipino_a.ogg"
</audio>,
<span> kabuklan </span>
<audio controls="true">
type="audio/mp4"/>
type="audio/ogg"/>
<source src="glossary/item_183216_total_2_filipino_b.m4a"
<source src="glossary/item_183216_total_2_filipino_b.ogg"
</audio>
<div/>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_HmongGloss" xml:lang="hmn" data-list-
type="glossary">
<qti-html-content>
<span>tag nrho</span>,
<span>taag nrho</span>
<audio controls="true">
<source src="glossary/item_183216_total_2_hmong.m4a" type="audio/mp4"/>
<source src="glossary/item_183216_total_2_hmong.ogg" type="audio/ogg"/>
</audio>
<div/>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_KoreanGloss" xml:lang="ko" data-list-
type="glossary">
<qti-html-content>
<span>전체</span>,
<span>총</span>
<audio controls="true">
<source src="glossary/item_183216_total_2_korean.m4a" type="audio/mp4"/>
<source src="glossary/item_183216_total_2_korean.ogg" type="audio/ogg"/>
</audio>
<div/>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_MandarinGloss" xml:lang="cmn" data-list-
type="glossary">
<qti-html-content>
<span>總</span>,
<span>总</span>
<audio controls="true">
type="audio/mp4"/>
type="audio/ogg"/>
<source src="glossary/item_183216_total_2_mandarin.m4a"
<source src="glossary/item_183216_total_2_mandarin.ogg"
</audio>
<div/>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_PunjabiGloss" xml:lang="pa" data-list-
type="glossary">
<qti-html-content>
<span>ਸਾਰ</span>
<audio controls="true">
type="audio/mp4"/>
type="audio/ogg"/>
<source src="glossary/item_183216_total_2_punjabi_a.m4a"
<source src="glossary/item_183216_total_2_punjabi_a.ogg"
</audio>,
<span>ਸਭ</span>
<audio controls="true">

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        <source src="glossary/item_183216_total_2_punjabi_b.m4a"
type="audio/mp4"/>
        <source src="glossary/item_183216_total_2_punjabi_b.ogg"
type="audio/ogg"/>
    </audio>
</div>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_RussianGloss" xml:lang="ru" data-list-
type="glossary">
    <qti-html-content>
        <span>Общее</span>
        <audio controls="true">
            <source src="glossary/item_183216_total_2_russian.m4a" type="audio/mp4"/>
            <source src="glossary/item_183216_total_2_russian.ogg" type="audio/ogg"/>
        </audio>
    </div>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_SomaliGloss" xml:lang="so" data-list-
type="glossary">
    <qti-html-content>
        <span>wadarta</span>
        <audio controls="true">
            <source src="glossary/item_183216_total_2_somali.m4a" type="audio/mp4"/>
            <source src="glossary/item_183216_total_2_somali.ogg" type="audio/ogg"/>
        </audio>
    </div>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_ESNGlossary" xml:lang="es" data-list-
type="glossary">
    <qti-html-content>
        <span>Total</span>
        <audio controls="true">
            <source src="glossary/item_183216_total_2_spanish.m4a" type="audio/mp4"/>
            <source src="glossary/item_183216_total_2_spanish.ogg" type="audio/ogg"/>
        </audio>
    </div>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_UkrainianGloss" xml:lang="uk" data-list-
type="glossary">
    <qti-html-content>
        <span>загальну </span>
        <audio controls="true">
            <source src="glossary/item_183216_total_2_ukrainian.m4a"
type="audio/mp4"/>
            <source src="glossary/item_183216_total_2_ukrainian.ogg"
type="audio/ogg"/>
        </audio>
    </div>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_VietnameseGloss" xml:lang="vi" data-list-
type="glossary">
    <qti-html-content>
        <span>Tông</span>
        <audio controls="true">
            <source src="glossary/item_183216_total_2_vietnamese.m4a"
type="audio/mp4"/>
            <source src="glossary/item_183216_total_2_vietnamese.ogg"
type="audio/ogg"/>
        </audio>
    </div>
</qti-html-content>
</qti-card-entry>

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    </qti-card>
  </qti-catalog>
  <qti-catalog id="glossary-term-3">
    <qti-card support="keyword-translation">
      <qti-card-entry data-list-code="TDS_WL_ArabicGloss" xml:lang="ar" data-list-
type="glossary">
        <qti-html-content>
          <span>كل</span>
          <audio controls="true">
            <source src="glossary/item_183216_all_3_arabic.m4a" type="audio/mp4"/>
            <source src="glossary/item_183216_all_3_arabic.ogg" type="audio/ogg"/>
          </audio>
        </div>
      </qti-html-content>
    </qti-card-entry>
    <qti-card-entry data-list-code="TDS_WL_BurmeseGloss" xml:lang="my" data-list-
type="glossary">
      <qti-html-content>
        <span>အလုံး</span>
        <audio controls="true">
          <source src="glossary/item_183216_all_3_burmese.m4a" type="audio/mp4"/>
          <source src="glossary/item_183216_all_3_burmese.ogg" type="audio/ogg"/>
        </audio>
      </div>
    </qti-html-content>
  </qti-card-entry>
  <qti-card-entry data-list-code="TDS_WL_CantoneseGloss" xml:lang="yue" data-list-
type="glossary">
    <qti-html-content>
      <span>所有</span>
      <audio controls="true">
        <source src="glossary/item_183216_all_3_cantonese.m4a" type="audio/mp4"/>
        <source src="glossary/item_183216_all_3_cantonese.ogg" type="audio/ogg"/>
      </audio>
    </div>
  </qti-html-content>
</qti-card-entry>
  <qti-card-entry data-list-code="TDS_WL_TagalGloss" xml:lang="tl" data-list-
type="glossary">
    <qti-html-content>
      <span>amin</span>
      <audio controls="true">
        <source src="glossary/item_183216_all_3_filipino_a.m4a"
type="audio/mp4"/>
        <source src="glossary/item_183216_all_3_filipino_a.ogg"
type="audio/ogg"/>
      </audio>,
      <span>lahat</span>
      <audio controls="true">
        <source src="glossary/item_183216_all_3_filipino_b.m4a"
type="audio/mp4"/>
        <source src="glossary/item_183216_all_3_filipino_b.ogg"
type="audio/ogg"/>
      </audio>
    </div>
  </qti-html-content>
</qti-card-entry>
  <qti-card-entry data-list-code="TDS_WL_HmongGloss" xml:lang="hmn" data-list-
type="glossary">
    <qti-html-content>
      <span>tag nrho</span>,
      <span>taag nrho</span>
      <audio controls="true">
        <source src="glossary/item_183216_all_3_hmong.m4a" type="audio/mp4"/>
        <source src="glossary/item_183216_all_3_hmong.ogg" type="audio/ogg"/>
      </audio>
    </qti-html-content>
  </qti-card-entry>
</qti-catalog>

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        </div>
      </qti-html-content>
    </qti-card-entry>
    <qti-card-entry data-list-code="TDS_WL_KoreanGloss" xml:lang="ko" data-list-
type="glossary">
      <qti-html-content>
        <span>모든</span>,
        <span>모두</span>
        <audio controls="true">
          <source src="glossary/item_183216_all_3_korean.m4a" type="audio/mp4"/>
          <source src="glossary/item_183216_all_3_korean.ogg" type="audio/ogg"/>
        </audio>
      </div>
    </qti-html-content>
  </qti-card-entry>
  <qti-card-entry data-list-code="TDS_WL_MandarinGloss" xml:lang="cmn" data-list-
type="glossary">
    <qti-html-content>
      <span>所有</span>
      <audio controls="true">
        <source src="glossary/item_183216_all_3_mandarin.m4a" type="audio/mp4"/>
        <source src="glossary/item_183216_all_3_mandarin.ogg" type="audio/ogg"/>
      </audio>
    </div>
  </qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_PunjabiGloss" xml:lang="pa" data-list-
type="glossary">
  <qti-html-content>
    <span>ੴ ਸ੍ਰੀ ਅੰਗ ਸ੍ਰੀ ਗੁਰੂ ਗ੍ਰੰਥ ਸਾਹਿਬ ਨਾਨਕ ਜੀ ਸਾਹਿਬ ਜੀ ਕੀ ਚੋਲੀ</span>
    <audio controls="true">
      <source src="glossary/item_183216_all_3_punjabi_a.m4a" type="audio/mp4"/>
      <source src="glossary/item_183216_all_3_punjabi_a.ogg" type="audio/ogg"/>
    </audio>,
    <span>ਮਾਠੇ</span>
    <audio controls="true">
      <source src="glossary/item_183216_all_3_punjabi_b.m4a" type="audio/mp4"/>
      <source src="glossary/item_183216_all_3_punjabi_b.ogg" type="audio/ogg"/>
    </audio>
  </div>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_RussianGloss" xml:lang="ru" data-list-
type="glossary">
  <qti-html-content>
    <span>Bce</span>
    <audio controls="true">
      <source src="glossary/item_183216_all_3_russian.m4a" type="audio/mp4"/>
      <source src="glossary/item_183216_all_3_russian.ogg" type="audio/ogg"/>
    </audio>
  </div>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_SomaliGloss" xml:lang="so" data-list-
type="glossary">
  <qti-html-content>
    <span>dhammaan</span>
    <audio controls="true">
      <source src="glossary/item_183216_all_3_somali.m4a" type="audio/mp4"/>
      <source src="glossary/item_183216_all_3_somali.ogg" type="audio/ogg"/>
    </audio>
  </div>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_ESNGlossary" xml:lang="es" data-list-
type="glossary">

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    <qti-html-content>
      <span>todos</span>
      <audio controls="true">
        <source src="glossary/item_183216_all_3_spanish.m4a" type="audio/mp4"/>
        <source src="glossary/item_183216_all_3_spanish.ogg" type="audio/ogg"/>
      </audio>
    </div>
  </qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_UkrainianGloss" xml:lang="uk" data-list-
type="glossary">
  <qti-html-content>
    <span>Yci</span>
    <audio controls="true">
      <source src="glossary/item_183216_all_3_ukrainian.m4a" type="audio/mp4"/>
      <source src="glossary/item_183216_all_3_ukrainian.ogg" type="audio/ogg"/>
    </audio>
  </div>
</qti-html-content>
</qti-card-entry>
<qti-card-entry data-list-code="TDS_WL_VietnameseGloss" xml:lang="vi" data-list-
type="glossary">
  <qti-html-content>
    <span>tất cả</span>
    <audio controls="true">
      <source src="glossary/item_183216_all_3_vietnamese.m4a"
type="audio/mp4"/>
      <source src="glossary/item_183216_all_3_vietnamese.ogg"
type="audio/ogg"/>
    </audio>
  </div>
</qti-html-content>
</qti-card-entry>
</qti-card>
</qti-catalog>
<qti-catalog id="glossary-term-4">
  <qti-card support="keyword-translation">
    <qti-card-entry data-list-code="TDS_ILG1" data-list-type="illustration">
      <qti-html-content>
        
      </qti-html-content>
    </qti-card-entry>
  </qti-card>
</qti-catalog>
</qti-catalog-info>
<qti-response-processing>
  <qti-set-outcome-value identifier="Responses">
    <qti-custom-operator class="qti.sbac.customOperators.EQ.PREPROCESSRESPONSE"
definition="response=RESPONSE"/>
  </qti-set-outcome-value>
  <qti-set-outcome-value identifier="Response1">
    <qti-index n="1">
      <qti-variable identifier="Responses"/>
    </qti-index>
  </qti-set-outcome-value>
  <qti-response-condition>
    <qti-response-if>
      <qti-custom-operator class="qti.sbac.customOperators.EQ.ISEQUVALENT"
definition="exemplar=70/4|||simplify=true|||object=Response1"/>
      <qti-set-outcome-value identifier="SCORE">
        <qti-base-value base-type="float">
          1.0
        </qti-base-value>
      </qti-set-outcome-value>
    </qti-response-if>
    <qti-response-else>
      <qti-set-outcome-value identifier="SCORE">

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        <qti-base-value base-type="float">
0.0
    </qti-base-value>
        </qti-set-outcome-value>
    </qti-response-else>
</qti-response-condition>
</qti-response-processing>
</qti-assessment-item>
```