

Tennessee Comprehensive Assessment Program

TCAP

TNReady—Math Grade 8 Item Release





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Metadata Interpretation Guide – Math

SAMPLE METADATA TABLE

Label	TN0045532	Max Points	1
Item Grade	8	Rationale1	
Item Content	Math	Rationale2	
Item Type	Choice	Rationale3	
Key	3	Rationale4	
DOK	2	Rationale5	
Difficulty	M	Rationale6	
Calculator	No	Sample Answer	
Ruler	None		
Standard 1 Code	8.NS.A.2	Standard 1	
Standard 2 Code	8.NS.A.2	Standard 2	

METADATA DEFINITIONS

Label: Unique letter/number code used to identify the item.	Max Points: Maximum score points possible for this item.
Item Grade (if listed): Grade level in 3-8 or EOC	Rationale1 (if listed): Reason why this answer choice is correct or incorrect.
Item Content (if listed): Subject being tested. (e.g., ELA, Algebra I, etc.).	Rationale2 (if listed): Reason why this answer choice is correct or incorrect.
Item Type: For example, "Choice" for multiple choice questions, "Match" for matching tables, "Composite" for two-part items.	Rationale3 (if listed): Reason why this answer choice is correct or incorrect.
Key: Correct answer. 1=A, 2=B, etc. This may be blank for constructed response items where students write or type their responses.	Rationale4 (if listed): Reason why this answer choice is correct or incorrect.
DOK (if listed): Depth of Knowledge (cognitive complexity) is measured on a four-point scale. 1=recall; 2=skill/concept; 3=strategic thinking; 4=extended thinking.	Rationale5 (if listed): Reason why this answer choice is correct or incorrect.
Difficulty (if listed): Level of difficulty.	Rationale6 (if listed): Reason why this answer choice is correct or incorrect.
Calculator (if listed): Yes for items that permit calculator use.	Protractor (if listed): Yes for items that permit protractor use.
Ruler (if listed): Yes for items that permit a ruler.	Sample Answer (if listed): An example of an answer a student could provide.
Standard 1 Code (if listed): Content standard assessed.	Standard 1 (if listed): Text of the content standard assessed.
Standard 2 Code (if listed): Content standard assessed. This is the primary code used for the Integrated Math courses.	Standard 2 (if listed): Text of the content standard assessed.

TN420611

Label	TN420611	Max Points	1
Item Grade	N/A	Rationale1	N/A
Item Content	Math	Rationale2	N/A
Item Type	choice	Rationale3	N/A
Key	1,3,4	Rationale4	N/A
DOK	2	Rationale5	N/A
Difficulty	N/A	Rationale6	N/A
Calculator	Yes	Sample Answer	N/A
Ruler	None		
Standard 1 Code	8.EE.A.3	Standard 1 Text	N/A

In a biology experiment, four groups of fruit flies were fed different fruits. At the end of the experiment, the average lengths of the fruit flies were recorded.

Group	1	2	3	4
Length (meters)	1.0×10^{-4}	2.0×10^{-3}	4.0×10^{-6}	8.0×10^{-5}

Which statements are true regarding the average lengths of the fruit flies?

Select **all** that apply.

- Group 2 is 20 times larger than Group 1.
- Group 2 is 400 times smaller than Group 4.
- Group 4 is 20 times larger than Group 3.
- Group 3 is 500 times smaller than Group 2.
- Group 1 is 80 times larger than Group 4.

TN329161

Label	TN329161	Max Points	1 1 1
Item Grade	08	Rationale1	N/A
Item Content	Math	Rationale2	N/A
Item Type	Composite	Rationale3	N/A
Key	1 1,6 1	Rationale4	N/A
DOK	3	Rationale5	N/A
Difficulty	N/A	Rationale6	N/A
Calculator	Yes	Sample Answer	N/A
Ruler	None		
Standard 1 Code	8.F.B.4	Standard 1 Text	N/A

Billy is training for a long-distance running event. During one training session, he records the miles run after every 5 minutes.

Time in Minutes, x	Miles Run, y
5	0.625
10	1.25
15	1.875
20	2.5
25	3.125
30	3.75

He notices the table shows a linear relationship.

Select one answer for each box to correctly complete the sentences regarding Billy's training session.

Part A

The rate of change for the table is S .

Box S
0.125
0.625

M 0.125

P 0.625

Part B

This means that Billy runs T for each V .

Box T
an additional 0.125 of a mile
an additional 0.625 of a mile
0.125 more minutes
0.625 more minutes

Box V
mile run
minute run

- an additional 0.125 of a mile
- an additional 0.625 of a mile
- 0.125 more minutes
- 0.625 more minutes
- mile run
- minute run

Part C

The equation of the line that models the linear relationship is W .

Box W
$y = 0.125x$
$y = 0.625x$
$y = 0.125x + 5$
$y = 0.625x + 5$

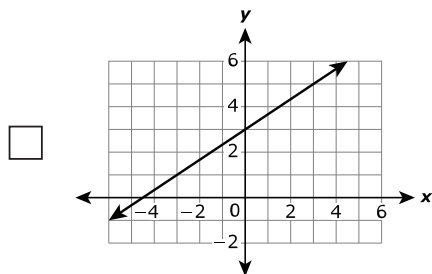
- M $y = 0.125x$
- P $y = 0.625x$
- R $y = 0.123x + 5$
- S $y = 0.625x + 5$

TN720617

Label	TN720617	Max Points	1
Item Grade	N/A	Rationale1	N/A
Item Content	Math	Rationale2	N/A
Item Type	choice	Rationale3	N/A
Key	1,3,5	Rationale4	N/A
DOK	2	Rationale5	N/A
Difficulty	N/A	Rationale6	N/A
Calculator	Yes	Sample Answer	N/A
Ruler	None		
Standard 1 Code	8.F.A.2	Standard 1 Text	N/A

Identify **all** the linear functions with a rate of change greater than or equal to 1.5.

x	y
-2	-5
0	2
2	9
4	16



$y = \frac{3}{2}x - 1$

y	-8	-4	0	4
x	-13	-8	-3	2

 y is four more than three times the value of x

TN120623

Label	TN120623	Max Points	1
Item Grade	N/A	Rationale1	N/A
Item Content	Math	Rationale2	N/A
Item Type	choice	Rationale3	N/A
Key	1	Rationale4	N/A
DOK	3	Rationale5	N/A
Difficulty	N/A	Rationale6	N/A
Calculator	Yes	Sample Answer	N/A
Ruler	None		
Standard 1 Code	8.EE.C.7b	Standard 1 Text	N/A

Twice the difference of a number n and seven is equal to four less than the product of five and the number n . What is the value of n ?

M $n = -\frac{10}{3}$

P $n = -1$

R $n = 1$

S $n = \frac{10}{7}$

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