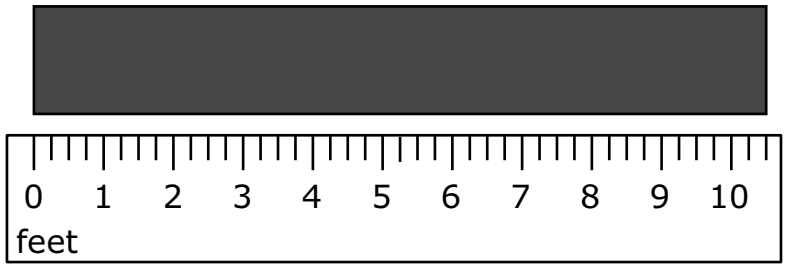
Kentucky Summative Assessments

Grade 6 Mathematics
Released Items
2024

1

MA0621014

A carpenter has a piece of wood that is $10\frac{1}{2}$ feet long as shown in the diagram.



The carpenter plans to cut the piece of wood into smaller pieces that are each $1\frac{3}{4}$ feet long.

- How many pieces of wood that are $1\frac{3}{4}$ feet long can the carpenter make from the whole piece of wood?
- Explain how the measuring tape can be used to find your answer.

Enter your answer and your explanation in the space provided.

Released Item Performance

Kentucky Summative Assessments

Spring 2024
Grade 6
Mathematics

Item: MA0621014
Book Question Number: 1

Standard: KY.6.NS.1

Item Type: SA
Key: Rubric

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Score Percentages		
				Score 0 (%)	Score 1 (%)	Score 2 (%)
All Students	**42,800**	23.0%	0.46	65%	24%	11%
Gender						
Female	**20,620**	23.3%	0.47	65%	24%	11%
Male	**22,180**	22.8%	0.46	65%	24%	11%
Ethnicity						
African American	**4,279**	10.6%	0.21	82%	14%	3%
American Indian or Alaska Native	**48**	15.6%	0.31	71%	27%	2%
Asian	**992**	39.0%	0.78	47%	28%	25%
Hispanic or Latino	**3,846**	16.6%	0.33	74%	19%	7%
Native Hawaiian or Pacific Islander	**89**	19.1%	0.38	69%	25%	7%
White (non-Hispanic)	**31,256**	25.2%	0.50	62%	26%	12%
Two or more races	**2,290**	20.5%	0.41	68%	23%	9%
Migrant	**241**	13.9%	0.28	78%	17%	5%
English Learner	**2,103**	6.5%	0.13	89%	10%	2%
Economically Disadvantaged	**26,262**	16.8%	0.34	73%	20%	7%
Students with Disabilities	**5,968**	12.1%	0.24	80%	15%	5%

Rubric

Rubric	
Score Point 2	Student demonstrates a complete understanding of computing quotients of fractions using a number line model and solving word problems involving division of fractions by fractions.
Score Point 1	Student demonstrates a partial understanding of computing quotients of fractions using a number line model and solving word problems involving division of fractions by fractions.
Score Point 0	Student response is insufficient to demonstrate a grade-appropriate, relevant understanding of the task.

Score Points	• Score 2 points:
	  ○ Correct answer with complete explanation.
	• Score 1 point:
	  ○ Correct answer with incomplete or no explanation given. **OR**
	  ○ Incorrect or missing answer with complete explanation.

Correct Answers	Start with 0, and skip count by 1 ¾ until you land at 10 ½ on the number line. It takes exactly 6 times. So, the carpenter cut the larger board into 6 smaller boards. Note: Other reasonable answers are acceptable.

Anchor Set

A1

If you multiply 10 1/2 by 1 3/4 you should be able to get the answer. the answer is 5 pieces.

Anchor Annotation, Paper 1
Score Point 0

This response receives no credit. It includes none of the required elements.

An incorrect answer is included (5 pieces)

No explanation is shown that describes how the measuring tape can be used to find the correct answer.

A2

If the carpenter plans to cut the pieces of wood into smaller pieces that are each 1 3/4 feet long. Then the carpenter can make five whole pieces of wood out of 1 3/4 because 1 3/4 on the number line is two and if you count up by two's on the number line you get 5 so the carpenter can make five whole pieces of wood of the number line. As you can see this is how I got my answer.

Anchor Annotation, Paper 2
Score Point 0

This response receives no credit. It includes none of the required elements.

An incorrect answer is included (five whole pieces).

An incorrect explanation is shown to describe how the measuring tape can be used to find the correct answer (because 1 3/4 on the number line is two and if you count up by two’s on the number line you get 5). The response has rounded up the length of the smaller pieces of wood into 2 feet instead of the required 1 3/4.

A3

The carpenter can cut 5 pieces of wood that are 1 3/4 feet long.

You can count 7 lines to make 1 3/4 to figure out how big the pieces are.

Anchor Annotation, Paper 3
Score Point 0

This response receives no credit. It includes none of the required elements.

An incorrect answer is included (5 pieces of wood).

An incomplete explanation is shown that describes how to determine the length of 1 3/4 feet on the ruler (count 7 lines to make 1 3/4). The response recognizes that the ruler shows markings for each one-fourth of a foot and has counted 7 of them to arrive at 7/4 or 1 3/4. The response doesn't describe how to split the wood into 1 3/4 sections.

A4

10 1/2 ÷ 1 3/4 = 6

They can make 6 pieces out of 10 1/2 feet divided by 1 3/4.

Anchor Annotation, Paper 4
Score Point 1

This response receives partial credit. It includes one of the two required elements.

- The correct answer is included (6)

No explanation is included that describes how the measuring tape can be used to find the correct answer.

Note: Although the response shows a correct solution for determining how many 1 3/4 feet pieces of wood can be cut from the 10 1/2 feet piece of wood, the prompt requires an explanation that includes a description using a measuring tape. When a response simply shows dividing 10 1/2 by 1 3/4 no credit is awarded for the explanation.

A5

The Carpenter can cut at least five pieces of wood before the carpenter runs out of wood. Because if you add 1 3/4 five times you will get 8 3/4. The measuring tape can be used to find the answer by counting 1 3/4 and adding it together five times on the tape measure. So, the carpenter can cut at least 5 pieces of 1 3/4 feet long pieces of wood.

Anchor Annotation, Paper 5
Score Point 1

This response receives partial credit. It includes one of the two required elements.

- Complete explanation is shown that describes how the measuring tape can be used to find the correct answer (by counting 1 3/4 and adding it together five times on the tape measure).

An incorrect answer is included (five pieces of wood).

A6

When I solve the problem I get nine. The carpenter could use a measuring tape to find the answer by pulling it out till they get to 1 3/4 and then they can count how many can fit in 10 1/2.

Anchor Annotation, Paper 6
Score Point 1

This response receives partial credit. It includes one of the two required elements.

- Complete explanation is shown that describes how the measuring tape can be used to find the correct answer (by pulling it out till they get to 1 3/4 and then count how many can fit in 10 1/2).

An incorrect answer is included (nine).

A7

The carpenter could make the piece of wood into 6 pieces that are 1 3/4 feet long. The measuring tape may be utilized to assist me in finding the answer by measuring out the length of 1 3/4 and going down the measuring tape measuring out how many times 1 3/4 goes into 10 1/2.

Anchor Annotation, Paper 7
Score Point 2

This response receives full credit. It includes each of the two required elements.

- The correct answer is included (6 peices).
- Complete explanation is shown that describes how the measuring tape can be used to find the correct answer (measuring out the length of 1 3/4 and going down the measuring tape measuring out how many times 1 3/4 goes into 10 1/2).

A8

Six pieces of 1 3/4 foot boards can be cut out of a 10 1/2) foot board. I can use the measuring tape to find my answer by marking off sections of 1 3/4 foot so I can count how many sections there are.

Anchor Annotation, Paper 8
Score Point 2

This response receives full credit. It includes each of the two required elements.

- The correct answer is included (Six pieces).
- Complete explanation is shown that describes how the measuring tape can be used to find the correct answer (marking off sections of 1 3/4 foot so I can count how many sections there are).

A9

First, you would take your starting number, 10 1/2, and turning it into a decimal. (10.5) Next, you would convert 1 3/4 to a decimal, too. (1.75) Then you would divide 10.5 ÷ 1.75 = 6. You don't have to convert 6 into a fraction because it is a whole number. Now, if you were using the tape measure, you could measure 1 3/4 and mark each time you get to that point. Then, you could count how many spaces there are. So, the carpenter can make 6 pieces of wood that are 1 3/4 foot long.

Anchor Annotation, Paper 9
Score Point 2

This response receives full credit. It includes each of the two required elements.

- The correct answer is included (6 pieces wood).

- Complete explanation is shown that describes how the measuring tape can be used to find the correct answer (measure 1 3/4 and mark each time you get to that point. Then, you could count how many spaces there are).

MA0620069_stimulus

A box in the shape of a right rectangular prism is completely filled with sand. The prism has a length of $\frac{1}{3}$ feet, a width of $\frac{5}{6}$ feet, and a height of $\frac{3}{4}$ feet.

Formulas_6_G_2

Figure	Volume
Right Rectangular Prism	$V = Bh$ $V = lwh$

2

MA0620069_1,3

Which expression can be used to determine the amount of sand, in cubic feet, that was used to completely fill the prism?

Select **two** correct answers.

A $\frac{3}{4} \times \frac{5}{18}$

B $\frac{7}{6} \times \frac{3}{4}$

C $\frac{1}{3} \times \frac{5}{6} \times \frac{3}{4}$

D $\frac{1}{3} \times \left(\frac{5}{6} + \frac{3}{4}\right)$

E $\frac{1}{3} \times \frac{5}{6} + \frac{1}{3} \times \frac{3}{4}$

Released Item Performance

Kentucky Summative Assessments

Spring 2024
Grade 6
Mathematics

Item: MA0620069
Book Question Number: 2

Standard: KY.6.G.2

Item Type: MS
Key: A,C

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Score Percentages		
				Score 0 (%)	Score 1 (%)	Score 2 (%)
All Students	**31,505**	57.0%	1.14	16%	54%	30%
Gender						
Female	**15,085**	57.8%	1.16	15%	54%	31%
Male	**16,420**	56.3%	1.13	17%	53%	30%
Ethnicity						
African American	**3,219**	50.4%	1.01	21%	57%	22%
American Indian or Alaska Native	**38**	60.5%	1.21	8%	63%	29%
Asian	**698**	69.3%	1.39	10%	41%	49%
Hispanic or Latino	**2,936**	52.5%	1.05	19%	57%	24%
Native Hawaiian or Pacific Islander	**65**	56.9%	1.14	18%	49%	32%
White (non-Hispanic)	**22,828**	58.2%	1.16	15%	53%	32%
Two or more races	**1,721**	55.8%	1.12	17%	54%	29%
Migrant	**188**	50.0%	1.00	21%	57%	21%
English Learner	**1,739**	46.0%	0.92	24%	61%	16%
Economically Disadvantaged	**19,499**	53.2%	1.06	19%	56%	25%
Students with Disabilities	**4,957**	48.2%	0.96	23%	58%	19%

3

MA0621040

Point T is located at ($^{-}1$, 3) on a standard coordinate plane. Point R is located on the same coordinate plane and has the following properties:

- Point R is the same distance from the x-axis as point T.
- Point R is the same distance from the y-axis as point T.
- Point R has a y-coordinate opposite the y-coordinate of point T.

What are two ordered pairs that represent the possible location of point R? Explain how you determined your answer.

Enter your answers and your explanation in the space provided.

Released Item Performance

Kentucky Summative Assessments

Spring 2024
Grade 6
Mathematics

Item: MA0621040*
Book Question Number: 3

Standard: KY.6.NS.6.c

Item Type: SA
Key: Rubric

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Score Percentages		
				Score 0 (%)	Score 1 (%)	Score 2 (%)
All Students	**19,803**	12.5%	0.25	80%	14%	5%
Gender						
Female	**9,367**	12.7%	0.25	80%	15%	5%
Male	**10,436**	12.2%	0.24	81%	13%	5%
Ethnicity						
African American	**2,071**	4.5%	0.09	92%	6%	1%
American Indian or Alaska Native	**25**	4.0%	0.08	92%	8%	0%
Asian	**473**	23.6%	0.47	67%	20%	14%
Hispanic or Latino	**1,975**	7.1%	0.14	88%	10%	2%
Native Hawaiian or Pacific Islander	**53**	13.2%	0.26	83%	8%	9%
White (non-Hispanic)	**14,190**	14.2%	0.28	78%	16%	6%
Two or more races	**1,016**	10.2%	0.20	83%	14%	3%
Migrant	**133**	4.9%	0.10	92%	5%	2%
English Learner	**1,321**	1.7%	0.03	97%	3%	0%
Economically Disadvantaged	**12,400**	8.3%	0.17	86%	11%	3%
Students with Disabilities	**3,807**	3.5%	0.07	94%	5%	1%

* Calculator section

Rubric

Rubric	
Score Point 2	Student demonstrates complete understanding of how to recognize the similarity between whole numbers, their negative opposites and their positions on a number line, ordered pairs differ only by signs and their locations on one or both axes.
Score Point 1	Student demonstrates a partial understanding of how to recognize the similarity between whole numbers, their negative opposites and their positions on a number line, ordered pairs differ only by signs and their locations on one or both axes.
Score Point 0	Student response is insufficient to demonstrate a grade-appropriate, relevant understanding of the task.

Score Points	• Score 2 points:
	  ○ Correct locations, (-1, -3) and (1, -3), and a valid explanation.
	• Score 1 point:
	  ○ One correct location and a valid explanation. **OR**
	  ○ Correct locations and partial or no explanation. **OR**
	  ○ Incorrect location(s) and a valid explanation with correct process.

Correct Answers	The location of *R* is (-1, -3) or (1, -3). This is true because the *y*-coordinates are the opposite of the *y*-coordinate of point *T*, and the *x*-coordinates would have the same absolute value as the *x*-coordinate point of *T*.

Anchor Set

A1

(1.-3)

Anchor Annotation, Paper 1
Score Point 0

This response receives no credit. It includes none of the required elements.

One correct coordinate pair is included (1, -3) with no explanation. With only one coordinate pair a valid explanation must be included for credit.

A2

well if T is located (−1,3) and R is on the same coordinate plane but opposite y - *coordinate* of point T. prossible R would end up as (1,3) because its on the same X axis and Y axis but its on the opposite because its not of the say Y coordinate.

Anchor Annotation, Paper 2
Score Point 0

This response receives no credit. It includes none of the required elements.

Neither correct coordinate pair is shown. The explanation does not address the distance from the *x*-axis or *y*-axis or include the correct process which is required for partial credit with no correct coordinate pairs.

A3

On the x axis (-1, -3)

On the y axis (1,3)

the opposite of the t coordinate is (1,3)

(-1, -3) for 1 possibility and (1,3) for the second possibility.

Anchor Annotation, Paper 3
Score Point 0

This response receives no credit. It includes none of the required elements.

One correct coordinate pair is included (-1, -3) with no explanation. With only one coordinate pair a valid explanation must be included for credit.

A4

The two ordered pairs that represent the possible location of point R are (-1, -3) and (1, -3). This is because the y-coordinate is opposite of point T.

Anchor Annotation, Paper 4
Score Point 1

This response receives partial credit. It includes one of the two required elements.

- Both correct ordered pairs are included (-1, -3) and (1, -3).

The response includes an explanation for the *y*-coordinate (the y coordinate is oppisite of point T) but does not include an explanation for the *x*-coordinate making it a partial explanation.

A5

The two ordered pairs that represent the possible location of point R are (-1, -3) or (1, -3)

Anchor Annotation, Paper 5
Score Point 1

This response receives partial credit. It includes one of the two required elements.

- Both correct ordered pairs are included (-1, -3) and (1, -3).

No explanation is shown.

A6

The possible location for Point R is (1, -3) because the y is the oposite of 3 then its -3 and if R is the same distance x and y they are the oposite of each number.

Anchor Annotation, Paper 6
Score Point 1

This response receives partial credit. It includes one of the two required elements.

- One correct ordered pair is included (1, -3) with valid explanation (y is the oposite of 3 then its -3 and if R is the same distance x and y the are the oposite of each number).

A second ordered pair is not included with explanation.

A7

The two possible locations of point R are (1, -3) & (-1, -3) because they are both the same distance from the x-axis and y-axis, and the y-coordinates are both opposite of the y-coordinate of point T.

Anchor Annotation, Paper 7
Score Point 2

This response receives full credit. It includes each of the two required elements.

- Both correct ordered pairs are included (1, $^{-}$3) and ($^{-}$1, $^{-}$3).
- Valid explanation for both ordered pairs (they are both the same distance from the *x*-axis and *y*-axis, and the *y*-coordinates are both opposite of the *y*-coordinate of point *T*).

A8

If point R has the same distance from the x axis, then point R could have the x coordinate of 1 or -1. And if the y coordinate is the opposite of the y coordinate of T, then the y coordinate of R will be -3. So point R can be at (-1, -3) or be at (1, -3).

Anchor Annotation, Paper 8
Score Point 2

This response receives full credit. It includes each of the two required elements.

- Both correct ordered pairs are included ($^{-}$1, -3) and (1, $^{-}$3).
- Valid explanation for both ordered pairs (point R has the same distance from the x axis, then point R could habe the x coordinance of 1 or $^{-}$1. . . the y coordinate is the opposite of the y coordinate of T, then the y coordinate of R will be $^{-}$3).

One ordered pair that could represent the possible location of point R is (-1, -3). I got this because it says the Point R is the same distance from th x axis as point T and Point R has a y coordinate opposite of the y coordinate and the opposite of 3 is -3. Another pair that could possible represent Point R is (1, -3) I think this because one of Point R properties is that its the same distance from the x axis as point T and it says that Point R is the same distance from the y axis as point T.

Anchor Annotation, Paper 9
Score Point 2

This response receives full credit. It includes each of the two required elements.

- Both correct ordered pairs are included ($^{-}$1, -3) and (1, $^{-}$3).
- Valid explanation for the two ordered pairs (Point R is the same distance from th x axis as Point T. . . has a *y* coordinate opposite of the *y* coordinate and the opposite of 3 is $^{-}$3) and (Point R. . . the same distance from the *x* axis as Point T. . . same distance from the *y* axis as Point T).

4

MA0620006_4

The tables show the relationship between the number of steps and the total height, in inches, from the floor for two different staircases.

Staircase F

Number of Steps	Total Height (inches)
3	21
6	42
9	63

Staircase G

Number of Steps	Total Height (inches)
2	16
4	32
6	48

Which statement is true?

A Staircase F has a greater rate of change by 5 inches per step.

B Staircase F has a greater rate of change by 4 inches per step.

C Staircase G has a greater rate of 0.5 inch per step.

D Staircase G has a greater rate of 1 inch per step.

Released Item Performance

Kentucky Summative Assessments

Spring 2024
Grade 6
Mathematics

Item: MA0620006*
Book Question Number: 4

Standard: KY.6.RP.3.a

Item Type: MC
Key: D

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Answer Choice Options			
				A (%)	B (%)	C (%)	D (%)
All Students	**20,416**	25%	0.25	30%	29%	16%	25%
Gender							
Female	**9,644**	24%	0.24	30%	29%	17%	24%
Male	**10,772**	27%	0.27	29%	28%	16%	27%
Ethnicity							
African American	**2,181**	18%	0.18	29%	32%	22%	18%
American Indian or Alaska Native	**25**	8%	0.08	32%	28%	32%	8%
Asian	**485**	38%	0.38	30%	23%	9%	38%
Hispanic or Latino	**2,061**	22%	0.22	26%	33%	19%	22%
Native Hawaiian or Pacific Islander	**54**	28%	0.28	28%	20%	24%	28%
White (non-Hispanic)	**14,554**	27%	0.27	30%	28%	15%	27%
Two or more races	**1,056**	23%	0.23	28%	32%	17%	23%
Migrant	**138**	17%	0.17	27%	36%	20%	17%
English Learner	**1,403**	16%	0.16	25%	35%	24%	16%
Economically Disadvantaged	**12,850**	21%	0.21	29%	31%	19%	21%
Students with Disabilities	**3,944**	21%	0.21	26%	32%	22%	21%

* Calculator section

5

MA0620081_3

A teacher asked a group of 6th-grade students and a group of 7th-grade students how many books they read over the summer. She determined the median and the interquartile range of each group. She concludes that it is easier to predict the number of books a 6th-grade student read over the summer than a 7th-grade student. Which statement supports her conclusion?

A The median of the 6th-grade data is less than median of the 7th-grade data.

B The median of the 6th-grade data is greater than the median of the 7th-grade data.

C The interquartile range of the 6th-grade data is less than the interquartile range of the 7th-grade data.

D The interquartile range of the 6th-grade data is greater than the interquartile range of the 7th-grade data.

Released Item Performance

Kentucky Summative Assessments

Spring 2024
Grade 6
Mathematics

Item: MA0620081*
Book Question Number: 5

Standard: KY.6.SP.3

Item Type: MC
Key: C

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Answer Choice Options			
				A (%)	B (%)	C (%)	D (%)
All Students	**22,863**	38%	0.38	22%	23%	38%	17%
Gender							
Female	**11,178**	38%	0.38	21%	23%	38%	18%
Male	**11,685**	39%	0.39	24%	22%	39%	15%
Ethnicity							
African American	**2,205**	34%	0.34	20%	28%	34%	17%
American Indian or Alaska Native	**24**	33%	0.33	25%	33%	33%	8%
Asian	**511**	47%	0.47	17%	18%	47%	18%
Hispanic or Latino	**1,852**	36%	0.36	21%	25%	36%	18%
Native Hawaiian or Pacific Islander	**36**	39%	0.39	28%	19%	39%	14%
White (non-Hispanic)	**16,969**	39%	0.39	23%	22%	39%	16%
Two or more races	**1,266**	36%	0.36	22%	23%	36%	18%
Migrant	**105**	33%	0.33	12%	30%	33%	25%
English Learner	**762**	35%	0.35	18%	29%	35%	18%
Economically Disadvantaged	**13,777**	36%	0.36	22%	24%	36%	17%
Students with Disabilities	**2,144**	34%	0.34	22%	24%	34%	20%

* Calculator section

6

MA0620126_2

Cruz designs a rectangular frame. He plots (−4, −3) and (−4, 2) on a coordinate plane to draw the frame. The frame has a total area of 45 square units. Which ordered pairs could represent the other two vertices of the frame?

A (4, −3) and (4, 2)

B (5, −3) and (5, 2)

C (−3, 4) and (2, 4)

D (−3, 5) and (2, 5)

Released Item Performance

Kentucky Summative Assessments

Spring 2024
Grade 6
Mathematics

Item: MA0620126*
Book Question Number: 6

Standard: KY.6.NS.8

Item Type: MC
Key: B

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Answer Choice Options			
				A (%)	B (%)	C (%)	D (%)
All Students	**43,269**	31%	0.31	40%	31%	23%	6%
Gender							
Female	**20,819**	29%	0.29	41%	29%	24%	6%
Male	**22,450**	33%	0.33	39%	33%	22%	6%
Ethnicity							
African American	**4,384**	32%	0.32	34%	32%	27%	7%
American Indian or Alaska Native	**49**	20%	0.20	47%	20%	27%	6%
Asian	**996**	41%	0.41	36%	41%	18%	5%
Hispanic or Latino	**3,915**	29%	0.29	39%	29%	26%	6%
Native Hawaiian or Pacific Islander	**90**	34%	0.34	40%	34%	17%	9%
White (non-Hispanic)	**31,511**	30%	0.30	42%	30%	22%	6%
Two or more races	**2,324**	31%	0.31	38%	31%	25%	6%
Migrant	**243**	25%	0.25	40%	25%	28%	7%
English Learner	**2,165**	30%	0.30	36%	30%	27%	7%
Economically Disadvantaged	**26,623**	29%	0.29	39%	29%	25%	7%
Students with Disabilities	**6,086**	29%	0.29	38%	29%	24%	8%

* Calculator section

MA0620059

7 Todd buys 4 ice cream cones at a store. The total cost of the ice cream cones is $3.80.

Part A

Each ice cream cone that Todd buys has the same cost.

- Write an equation that can be used to determine the cost, c, in dollars, of each ice cream cone.
- Solve your equation for c.

Enter **only** your equation and your solution in the space provided.

Equation: ☐

$c =$ ☐

Part B

Todd pays for the ice cream cones using a $20 bill. The equation shown can be used to determine the amount of change, d, that Todd receives.

$$3.80 + d = 20$$

- Explain what each part of the equation represents in terms of the situation.
- Solve the equation for d. Show your work.

Enter your explanation, your solution, and your work in the space provided.

Math symbols

Relations

Released Item Performance

Kentucky Summative Assessments

Spring 2024
Grade 6
Mathematics

Item: MA0620059*
Book Question Number: 7

Standard: KY.6.EE.7

Item Type: ER
Key: Rubric

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Score Percentages				
				Score 0 (%)	Score 1(%)	Score 2 (%)	Score 3 (%)	Score 4 (%)
All Students	**22,748**	23.6%	0.94	51%	23%	12%	9%	5%
Gender								
Female	**11,123**	24.9%	1.00	50%	22%	13%	10%	5%
Male	**11,625**	22.3%	0.89	52%	24%	11%	8%	4%
Ethnicity								
African American	**2,178**	11.8%	0.47	70%	19%	6%	3%	2%
American Indian or Alaska Native	**24**	18.8%	0.75	50%	33%	13%	0%	4%
Asian	**511**	41.7%	1.67	28%	22%	18%	18%	14%
Hispanic or Latino	**1,844**	18.7%	0.75	58%	22%	10%	7%	3%
Native Hawaiian or Pacific Islander	**36**	18.8%	0.75	61%	17%	11%	8%	3%
White (non-Hispanic)	**16,899**	25.4%	1.01	48%	24%	13%	10%	5%
Two or more races	**1,256**	20.3%	0.81	55%	24%	10%	7%	4%
Migrant	**105**	15.2%	0.61	62%	22%	10%	5%	1%
English Learner	**758**	8.0%	0.32	77%	16%	4%	2%	1%
Economically Disadvantaged	**13,700**	17.8%	0.71	59%	22%	9%	6%	3%
Students with Disabilities	**2,131**	16.6%	0.67	67%	15%	8%	6%	4%

* Calculator section

08132024 KYRELIT1-000000-0000082

Rubric

Rubric	
The total item score is the sum of the points awarded in the Machine-scored and Human-scored parts.	
AI Scoring	
Score Point 2	Student scores a total combined score of 2 points.
Score Point 1	Student scores a total score of 1 point.
Score Point 0	Student response is incorrect.

Score Points	**Part A**
	• Score 2 points (AI-scored):
	  ○ Correct answers of **4c = 3.80** in gap1 and 0.95 in gap2.
	• Score 1 point:
	  ○ Correct equation in gap1. **OR**
	  ○ Correct answer in gap2. **OR**
	  ○ Correct positive number less than 3.80 in gap2 based on an incorrect equation in gap1. Allow for a tolerance of 0.01.
	• Note:
	  ○ Equivalent equations are acceptable in gap1.
	  ○ Variable substitution is not allowed in gap1.
	  ○ The equation should have at least one operator in gap1.
	  ○ Equivalent numbers are acceptable in gap2.

Human Scoring	
Score Point 2	Student scores a total combined score of 2 points.
Score Point 1	Student demonstrates a minimal understanding of solving real-world problems by writing and solving equations.
Score Point 0	Student response is insufficient to demonstrate a grade-appropriate, relevant understanding of the task.

Score Points	**Part B**
	• Score 2 points (Human-scored):
	  ○ Valid explanation of the equation in terms of the situation and the correct value of *d* with work shown.
	• Score 1 point:
	  ○ Complete explanation of the equation in terms of the situation and the correct value of *d* with no work shown. **OR**
	  ○ Partial explanation of the equation in terms of the situation and the correct value of *d* with work shown.

Correct Answer	**Part B** The equation represents that the total cost, 3.80, plus the amount Todd receives, *d*, is equal to the $20 bill that Todd used to pay for the ice cream cones. 3.80 + *d*=20 *d* = 20-3.80 *d* = 16.20

Anchor Set

A1

20.00 - 7.60 = 12.40 First thing i did was subtract my number from part A to 20 dollors then i got the answer 12 dollores and 40 cents so i whould have to give him 12 dollers and 40 cents back.

Anchor Annotation, Paper 1
Part B: Score Point 0

This response no credit. It includes none of the two required elements.

There is no explanation of the components of the equation and the correct value of d is not given.

A2

Each part of this give information to tell you how much he spent.

20 - 3.80 = 16.20

Anchor Annotation, Paper 2
Part B: Score Point 0

This response no credit. It includes none of the two required elements.

There is no explanation of the components of the equation in terms of the situation.

The correct value for d with work is provided. To receive credit, the response must also have at least a partial explanation for the components of the equation.

A3

3.80 + 16.20 = 20

Anchor Annotation, Paper 3
Part B: Score Point 0

This response no credit. It includes none of the two required elements.

There is no explanation of the components of the equation.

While the correct value of d is substituted for d in the equation, the work is not shown to derive 16.20.

A4

If todd pays with $20 he should get back, 16.20.
$20 -3.80 = $16.2
Which mean d is $16.20

Anchor Annotation, Paper 4
Part B: Score Point 1

This response receives partial credit. It includes one of the two required elements.

- The correct value of d is given ($16.20) with work shown ($20 - 3.80 = $16.2).

The equation is partially explained (todd pays with $20 he should get back, $16.20). No explanation of the cost of the cones (3.80).

A5

3.80 is the amount that Todd paid for 4 ice cream cones.

20 is the amount that Todd paid with

d is the change that he receives

d = 16.20

Anchor Annotation, Paper 5
Part B: Score Point 1

This response receives partial credit. It includes one of the two required elements.

- The equation is correctly explained (3.80 is the amount that Todd payed for 4 ice cream cones. 20 is the amount that Todd payed with. d is the change that he recieves). The correct value of d is given (d = 16.20).

No work is shown for how 16.20 was derived.

A6

A. The 3.80 is how much the cones cost and the 20 is how much Todd paid.

B. 20 - 3.80 = 16.2

Todd's change is 16.2

Anchor Annotation, Paper 6
Part B: Score Point 1

Score Point 1
This response receives partial credit. It includes one of the two required elements.

- The correct value of d is given (16.2) with work shown (20 - 3.80). The equation is partially explained (3.80 is how much the cones cost and the 20 is how much Todd paid).

There is no mention of the significance of the variable d.

A7

3.80 represents the total cost for the ice cream, d stands for the change, and 20 stands for the 20 dollar bill he is using to pay.

d = 20 - 3.80

d = 16.2

Anchor Annotation, Paper 7
Part B: Score Point 2

This response receives full credit. It includes each of the two required elements.

- The equation is correctly explained (3.80 represnts the total cost for the ice cream, d stands for the change, and 20 stands for the 20 dollar bill).
- The correct value of d is given (d = 16.2) with work shown (20 - 3.80).

A8

20 - 3.80 = 16.20

The variable in the problem above, d, represents the change that Todd will receive back, 3.80 is the price of the four ice cream cones that Todd buys, and the 20 is the amount he pays with. When I subtracted 3.80 from 20 I got 16.20; therefore, Todd will receive $16.20 back from the cashier.

Anchor Annotation, Paper 8
Part B: Score Point 2

This response receives full credit. It includes each of the two required elements.

- The equation is correctly explained (The variable in the problem above, d, represents the change that Todd will receive back, 3.80 is the price of the four ice cream cones that Todd buys, and the 20 is the amount he pays with).
- The correct value of d is given (d = 16.20) with work shown (20−3.80=16.20).

the $3.80 equals the total cost of ice cream cones d equals the amount od change he gets back and the 20 equals the $20 bill Todd gave the person

3.80 + d = 20

-3.80 3.80

d = 16.2

the amount he gets back is $16.20.

Anchor Annotation, Paper 9
Part B: Score Point 2

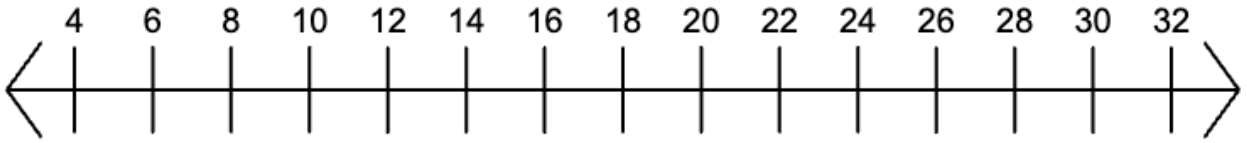
This response receives full credit. It includes each of the two required elements.

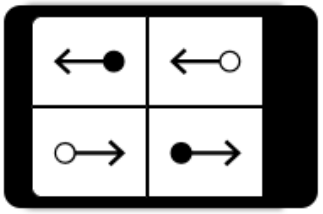
- The equation is correctly explained ($3.80 equals the total cost of ice cream d equals the amount od change he gets back and the 20 equals the $20 bill Todd gave the person).
- The correct value of d is given (d = 16.2 the amount he gets back is $16.20) with work shown, subtracting 3.80 from both sides of the equation.

8 MA0620142

A coach needs to buy new shirts for the basketball team. The maximum amount the coach can spend on each shirt is $25. Graph all the possible amounts, in dollars, that the coach can spend on each shirt.

Select a solution set indicator. Drag the points on the indicator to the appropriate locations on the number line.





Released Item Performance

Kentucky Summative Assessments

Spring 2024
Grade 6
Mathematics

Item: MA0620142*
Book Question Number: 8

Standard: KY.6.EE.8

Item Type: TE
Key: see below

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Score Percentages	
				Score 0 (%)	Score 1 (%)
All Students	**22,830**	40.6%	0.41	59%	41%
Gender					
Female	**11,163**	40.8%	0.41	59%	41%
Male	**11,667**	40.4%	0.40	60%	40%
Ethnicity					
African American	**2,197**	24.2%	0.24	76%	24%
American Indian or Alaska Native	**24**	37.5%	0.38	63%	38%
Asian	**511**	47.2%	0.47	53%	47%
Hispanic or Latino	**1,849**	31.0%	0.31	69%	31%
Native Hawaiian or Pacific Islander	**36**	27.8%	0.28	72%	28%
White (non-Hispanic)	**16,949**	43.9%	0.44	56%	44%
Two or more races	**1,264**	36.1%	0.36	64%	36%
Migrant	**105**	32.4%	0.32	68%	32%
English Learner	**760**	18.7%	0.19	81%	19%
Economically Disadvantaged	**13,751**	34.9%	0.35	65%	35%
Students with Disabilities	**2,139**	29.5%	0.29	71%	29%

Key: Number Line: A correct response will have a ray that starts with a closed point at 25 and points left.

* Calculator section

Investing in Kentucky's Future, One Student at a Time