

SECURE MATERIAL – Reader Name: _____
Tennessee Comprehensive Assessment Program

TCAP/CRA

2014



5

Phase II Toys Task Anchor Set

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Part 2: Constructed Response Task Section

Toys Task

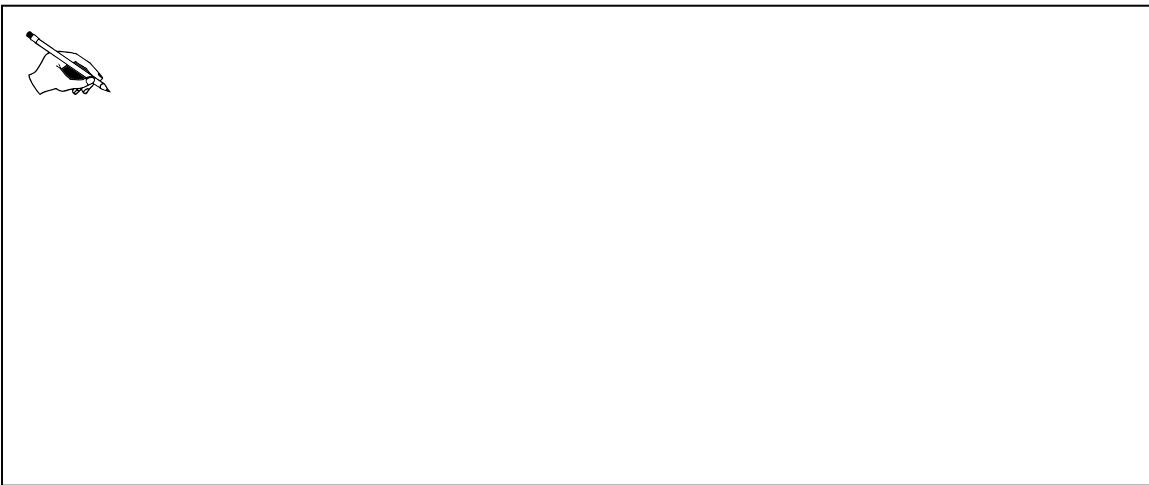
Bronwyn decides to give away some of her toys.

She will give $\frac{2}{5}$ of the toys to a shelter.

She will give $\frac{1}{2}$ of the toys to younger friends.

She will give the rest of the toys to her cousin.

- a. What fraction of the toys will Bronwyn give to her cousin? Show with words and equations how you found this fraction.



- b. Bronwyn is giving away 20 toys total. Complete the chart to show how many toys she will give to each person or group:

| Where Toys Are Going | Fraction of Bronwyn's Toys | Number of toys |
|----------------------|----------------------------|----------------|
| A shelter | $\frac{2}{5}$ | |
| Younger friends | $\frac{1}{2}$ | |
| Her cousin | | |



REVIEW YOUR
WORK IF YOU
HAVE TIME.

Scoring Guide

The CCSS for Mathematical Content (3 points)

5.NF.A.2 Calculates the fraction of toys for part a.

(1 Point)

5.NF.B.4x Finds $\frac{2}{5}$ of 20.

(1 Point)

5.NF.B.4z Finds $\frac{1}{2}$ of 20.

(1 Point)

The CCSS for Mathematical Practice (2 points)

MP2 Recognizes that the two fractions must be subtracted from the whole, and recognizes that the number of toys in the chart needs to total to 20.

(1 Point)

(MP2: Reason abstractly and quantitatively.)

MP6 Provides a precise explanation and/or equation for calculating the missing $\frac{1}{10}$.

(1 Point)

(MP6: Attend to precision.)

TOTAL POINTS: 5

The CCSS for Mathematical Content Addressed In This Task

Use equivalent fractions as a strategy to add and subtract fractions.

5.NF.A.2 Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result $2/5 + 1/2 = 3/7$, by observing that $3/7 < 1/2$.*

Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

5.NF.B.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

The CCSS for Mathematical Practice*

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

* Gray type indicates Mathematical Practices not addressed in this assessment.

Toys Task

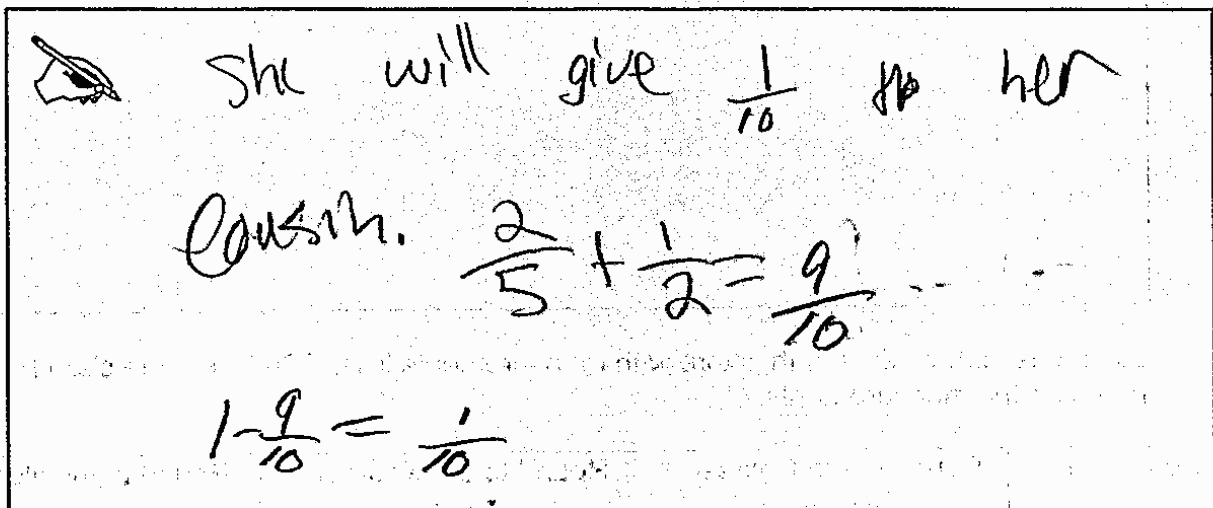
Bronwyn decides to give away some of her toys.

She will give $\frac{2}{5}$ of the toys to a shelter.

She will give $\frac{1}{2}$ of the toys to younger friends.

She will give the rest of the toys to her cousin.

- a. What fraction of the toys will Bronwyn give to her cousin? Show with words and equations how you found this fraction.



She will give $\frac{1}{10}$ to her cousin.

$$\frac{2}{5} + \frac{1}{2} = \frac{9}{10}$$

$$1 - \frac{9}{10} = \frac{1}{10}$$

- b. Bronwyn is giving away 20 toys total. Complete the chart to show how many toys she will give to each person or group:

| Where Toys Are Going | Fraction of Bronwyn's Toys | Number of toys |
|----------------------|----------------------------|----------------|
| A shelter | $\frac{2}{5}$ | 8 |
| Younger friends | $\frac{1}{2}$ | 10 |
| Her cousin | $\frac{1}{10}$ | 2 |

Anchor 1

Litho 00285200134

Total Content Points: 3 (5.NF.A.2, 5.NF.B.4x, 5.NF.B.4z)

Total Practice Points: 2 (MP2, MP6)

In Part A, the student correctly calculates the fraction of toys that Bronwyn will give to her cousin $\left(\frac{1}{10}\right)$ (5.NF.A.2). The student provides a precise equation for calculating the missing $\frac{1}{10}$ $\left(1 - \frac{9}{10} = \frac{1}{10}\right)$ (MP6). In Part B, the student finds $\frac{2}{5}$ of 20 (8) (5.NF.B.4x) and $\frac{1}{2}$ of 20 (10) (5.NF.B.4z). The student recognizes that the sum of the two fractions must be subtracted from the whole $\left(1 - \frac{9}{10} = \frac{1}{10}\right)$ and that the number of toys needs to total to 20 (8, 10, 2) (MP2).

Total Awarded Points: 5 out of 5

Toys Task

Bronwyn decides to give away some of her toys.

She will give $\frac{2}{5}$ of the toys to a shelter.

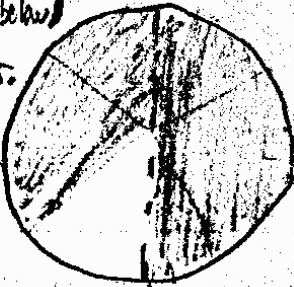
She will give $\frac{1}{2}$ of the toys to younger friends.

She will give the rest of the toys to her cousin.

- a. What fraction of the toys will Bronwyn give to her cousin? Show with words and equations how you found this fraction.

I used part b (below) to find my answer.

I said Bronwyn is giving away 20 toys. $\frac{1}{2}$ of 20 is 10 and $\frac{2}{5}$ of 20 is 8. $10 + 8 = 18$. $20 - 18 = 2$. 2 is $\frac{1}{10}$ of 20.



$\frac{1}{5} + \frac{2}{5} = \frac{3}{5} + \frac{2}{5}$

$\frac{1}{10}$

- b. Bronwyn is giving away 20 toys total. Complete the chart to show how many toys she will give to each person or group:

| Where Toys Are Going | Fraction of Bronwyn's Toys | Number of toys |
|----------------------|----------------------------|----------------|
| A shelter | $\frac{2}{5}$ | 8 |
| Younger friends | $\frac{1}{2}$ | 10 |
| Her cousin | $\frac{1}{10}$ | 2 |

$5 \overline{)20}^4$

Anchor 2

Litho 00015200136

Total Content Points: 3 (5.NF.A.2, 5.NF.B.4x, 5.NF.B.4z)

Total Practice Points: 1 (MP2, MP6)

In Part A, the student uses information from Part B to correctly calculate the fraction of toys that Bronwyn will give to her cousin $\left(\frac{1}{10}\right)$ (5.NF.A.2). The student provides a precise explanation for calculating the missing $\frac{1}{10}$, concluding that “2 is $\frac{1}{10}$ of 20” (MP6). In Part B, the student finds $\frac{2}{5}$ of 20 (8) (5.NF.B.4x) and $\frac{1}{2}$ of 20 (10) (5.NF.B.4z). The student recognizes that the sum of $\frac{2}{5}$ of 20 and $\frac{1}{2}$ of 20 must be subtracted from the whole of 20 toys ($20 - 18 = 2$), and that the number of toys needs to total to 20 (8, 10, 2) (MP2).

Total Awarded Points: 5 out of 5

Toys Task

Bronwyn decides to give away some of her toys.

She will give $\frac{2}{5}$ of the toys to a shelter.

She will give $\frac{1}{2}$ of the toys to younger friends.

She will give the rest of the toys to her cousin.

- a. What fraction of the toys will Bronwyn give to her cousin? Show with words and equations how you found this fraction.

Handwritten work showing the calculation of the fraction of toys given to the cousin:

$$\frac{1}{10}$$

$$\frac{2}{5} = \frac{4}{10}$$

$$\frac{1}{2} = \frac{5}{10}$$

$$\frac{4}{10} + \frac{5}{10} = \frac{9}{10}$$

$$1 - \frac{9}{10} = \frac{1}{10}$$

- b. Bronwyn is giving away 20 toys total. Complete the chart to show how many toys she will give to each person or group:

| Where Toys Are Going | Fraction of Bronwyn's Toys | Number of toys |
|----------------------|----------------------------|----------------|
| A shelter | $\frac{2}{5}$ | 8 |
| Younger friends | $\frac{1}{2}$ | 10 |
| Her cousin | $\frac{1}{10}$ | 2 |

Anchor 3

Litho 00975200134

Total Content Points: 3 (5.NF.A.2, 5.NF.B.4x, 5.NF.B.4z)

Total Practice Points: 1 (MP2)

In Part A, the student correctly calculates the fraction of toys that Bronwyn will give to her cousin $\left(\frac{1}{10}\right)$ (5.NF.A.2). However, the student provides no written explanation, incorrectly subtracts $\frac{10}{10}$ from $\frac{9}{10}$, and imprecisely strings the equations for calculating the missing $\frac{1}{10}$ together with equal signs $\left(\frac{4}{10} + \frac{5}{10} = \frac{9}{10} - \frac{10}{10} = \frac{1}{10}\right)$ (no credit for MP6). In Part B, the student finds $\frac{2}{5}$ of 20 (8) (5.NF.B.4x) and $\frac{1}{2}$ of 20 (10) (5.NF.B.4z). Although providing an inaccurate equation in Part A, the student's work in Part B indicates recognition that the sum of the two fractions must be subtracted from the whole and that the number of toys needs to total to 20 (8, 10, 2) (MP2).

Total Awarded Points: 4 out of 5

Toys Task

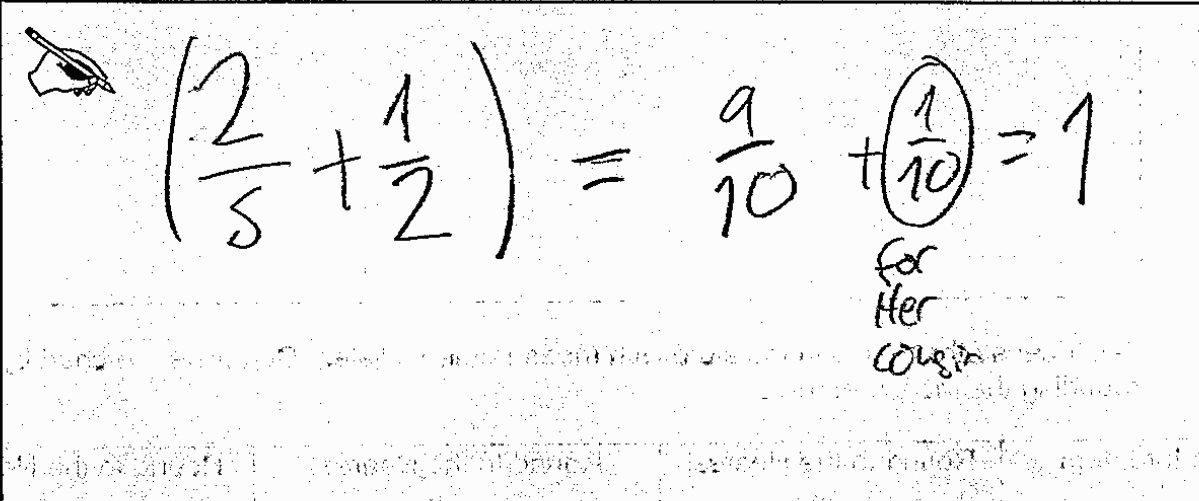
Bronwyn decides to give away some of her toys.

She will give $\frac{2}{5}$ of the toys to a shelter.

She will give $\frac{1}{2}$ of the toys to younger friends.

She will give the rest of the toys to her cousin.

- a. What fraction of the toys will Bronwyn give to her cousin? Show with words and equations how you found this fraction.



$$\left(\frac{2}{5} + \frac{1}{2}\right) = \frac{9}{10} + \left(\frac{1}{10}\right) = 1$$

for Her cousin

- b. Bronwyn is giving away 20 toys total. Complete the chart to show how many toys she will give to each person or group:

| Where Toys Are Going | Fraction of Bronwyn's Toys | Number of toys |
|----------------------|----------------------------|----------------|
| A shelter | $\frac{2}{5}$ | 8 |
| Younger friends | $\frac{1}{2}$ | 10 |
| Her cousin | $\frac{1}{10}$ | 2 |

Anchor 4

Litho 00165200134

Total Content Points: 3 (5.NF.A.2, 5.NF.B.4x, 5.NF.B.4z)

Total Practice Points: 1 (MP2)

In Part A, the student calculates the fraction of toys that Bronwyn will give to her cousin $\left(\frac{1}{10}\right)$ (5.NF.A.2). The student imprecisely strings the equations for calculating the missing $\frac{1}{10}$ together with equal signs $\left(\left(\frac{2}{5} + \frac{1}{2}\right) = \frac{9}{10} + \frac{1}{10} = 1\right)$ (no credit for MP6). In Part B, the student finds $\frac{2}{5}$ of 20 (8) (5.NF.B.4x) and $\frac{1}{2}$ of 20 (10) (5.NF.B.4z). The student uses an inverse operation to demonstrate what the cousin's fraction of toys will be $\left(\frac{9}{10} + \frac{1}{10} = 1\right)$, which is sufficient to indicate recognition that the sum of the two fractions must be subtracted from the whole. The student also recognizes that the number of toys needs to total to 20 (8, 10, 2) (MP2).

Total Awarded Points: 4 out of 5

Toys Task

Bronwyn decides to give away some of her toys.

She will give $\frac{2}{5}$ of the toys to a shelter.

She will give $\frac{1}{2}$ of the toys to younger friends.

She will give the rest of the toys to her cousin.

$$\begin{array}{r} 0.4 \\ 5 \overline{)20} \\ \underline{-20} \\ 0 \end{array}$$

- a. What fraction of the toys will Bronwyn give to her cousin? Show with words and equations how you found this fraction.

$+ \begin{array}{r} 0.4 \\ 0.5 \\ \hline 0.9 \end{array} = 90\%$

$\begin{array}{r} 100\% \\ - 90\% \\ \hline 10\% \end{array}$

her cousin get 10% of her toys bc cause she gives a total of 90% away

- b. Bronwyn is giving away 20 toys total. Complete the chart to show how many toys she will give to each person or group:

| Where Toys Are Going | Fraction of Bronwyn's Toys | Number of toys |
|----------------------|----------------------------|----------------|
| A shelter | $\frac{2}{5}$ | 8 |
| Younger friends | $\frac{1}{2}$ | 10 |
| Her cousin | 0.10 | 2 |

$$\begin{array}{r} 20 \\ \times 0.10 \\ \hline 2.00 \end{array}$$

Toys Task


Bronwyn decides to give away some of her toys.

She will give $\frac{2}{5}$ of the toys to a shelter.

She will give $\frac{1}{2}$ of the toys to younger friends.

She will give the rest of the toys to her cousin.

- a. What fraction of the toys will Bronwyn give to her cousin? Show with words and equations how you found this fraction.

 You have to add $\frac{2}{5} + \frac{1}{2}$ then you have to subtract your answer by 1.

Her cousin gets $\frac{1}{10}$

$$\frac{2}{5} + \frac{1}{2} = \frac{2 \times 2 + 1 \times 5}{5 \times 2} = \frac{4 + 5}{10} = \frac{9}{10}$$

- b. Bronwyn is giving away 20 toys total. Complete the chart to show how many toys she will give to each person or group:

| Where Toys Are Going | Fraction of Bronwyn's Toys | Number of toys |
|----------------------|----------------------------|----------------|
| A shelter | $\frac{2}{5}$ | 6 |
| Younger friends | $\frac{1}{2}$ | 10 |
| Her cousin | $\frac{1}{10}$ | 4 |

Anchor 6

Litho 00445200136

Total Content Points: 2 (5.NF.A.2, 5.NF.B.4z)

Total Practice Points: 1 (MP2)

In Part A, the student correctly calculates the fraction of toys that Bronwyn will give to her cousin $\left(\frac{1}{10}\right)$ (5.NF.A.2). However, the explanation is imprecise (“then your have to subtract your awnser by 1”), nor does the student provide an equation for calculating the missing $\frac{1}{10}$ (no credit for MP6). In Part B, the student does not find $\frac{2}{5}$ of 20 and incorrectly answers “6” (no credit for 5.NF.B.4x) but does find $\frac{1}{2}$ of 20 (10) (5.NF.B.4z). The student recognizes in Part A that the sum of the two fractions must be subtracted from the whole (“You have to add $\frac{2}{5} + \frac{1}{2}$ then your have to subtract your awnser by 1”) and that the number of toys, although two are incorrect, needs to total to 20 in Part B (6, 10, 4) (MP2).

Total Awarded Points: 3 out of 5

Toys Task

Bronwyn decides to give away some of her toys.

She will give $\frac{2}{5}$ of the toys to a shelter.

She will give $\frac{1}{2}$ of the toys to younger friends.

She will give the rest of the toys to her cousin.

- a. What fraction of the toys will Bronwyn give to her cousin? Show with words and equations how you found this fraction.

$\frac{4}{10} = \frac{5}{10} =$

$\frac{4}{10} + \frac{5}{10} = \frac{9}{10}$

So, Bronwyn is giving her cousin $\frac{2}{10}$ of her toys away.

- b. Bronwyn is giving away 20 toys total. Complete the chart to show how many toys she will give to each person or group:

| Where Toys Are Going | Fraction of Bronwyn's Toys | Number of toys |
|----------------------|----------------------------|----------------|
| A shelter | $\frac{2}{5}$ | 8 toys |
| Younger friends | $\frac{1}{2}$ | 10 toys |
| Her cousin | $\frac{1}{10}$ | 2 toys |

$\frac{5}{20}$ IIII

Anchor 7

Litho 00405200136

Total Content Points: 3 (5.NF.A.2, 5.NF.B.4x, 5.NF.B.4z)

Total Practice Points: 0

In Part A, the student correctly calculates the fraction of toys that Bronwyn will give to her cousin $\left(\frac{1}{10}\right)$ (5.NF.A.2). The student does not provide a precise explanation or an equation for calculating the missing $\frac{1}{10}$ (no credit for MP6). In Part B, the student finds $\frac{2}{5}$ of 20 (8) (5.NF.B.4x) and $\frac{1}{2}$ of 20 (10) (5.NF.B.4z). Although the student recognizes that the number of toys needs to total to 20 (8, 10, 2), no equation showing subtraction of the two fractions from the whole is provided (no credit for MP2).

Total Awarded Points: 3 out of 5

Toys Task

Bronwyn decides to give away some of her toys.

She will give $\frac{2}{5}$ of the toys to a shelter.

She will give $\frac{1}{2}$ of the toys to younger friends.

She will give the rest of the toys to her cousin.

- a. What fraction of the toys will Bronwyn give to her cousin? Show with words and equations how you found this fraction.

Handwritten work for part a:

$$\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$$

$$20 - \frac{3}{7}$$

$$\frac{137}{7}$$

$$\begin{array}{r} 19 \\ \times 7 \\ \hline 133 \end{array}$$

The final answer $19 \frac{4}{7}$ is circled.

- b. Bronwyn is giving away 20 toys total. Complete the chart to show how many toys she will give to each person or group:

| Where Toys Are Going | Fraction of Bronwyn's Toys | Number of toys |
|----------------------|----------------------------|----------------|
| A shelter | $\frac{2}{5}$ | 8 |
| Younger friends | $\frac{1}{2}$ | 10 |
| Her cousin | $19 \frac{4}{7}$ | |

Anchor 8

Litho 00785200134

Total Content Points: 2 (5.NF.B.4x, 5.NF.B.4z)

Total Practice Points: 0

In Part A, the student incorrectly calculates the fraction of toys that Bronwyn will give to her cousin $\left(19\frac{4}{7}\right)$ (no credit for 5.NF.A.2). The student gives no explanation nor provides an equation for calculating the missing $\frac{1}{10}$ (no credit for MP6). In Part B, the student finds $\frac{2}{5}$ of 20 (8) (5.NF.B.4x) and $\frac{1}{2}$ of 20 (10) (5.NF.B.4z). The student confuses the 20 toys with the “whole” and subtracts the incorrect sum of the two fractions $\left(\frac{3}{7}\right)$ from 20 rather than from 1 in Part A, indicating lack of recognition that the two fractions must be subtracted from the whole. Furthermore, there is no evidence for recognition that the number of toys in the chart needs to total to 20 in Part B (no credit for MP2).

Total Awarded Points: 2 out of 5

Toys Task

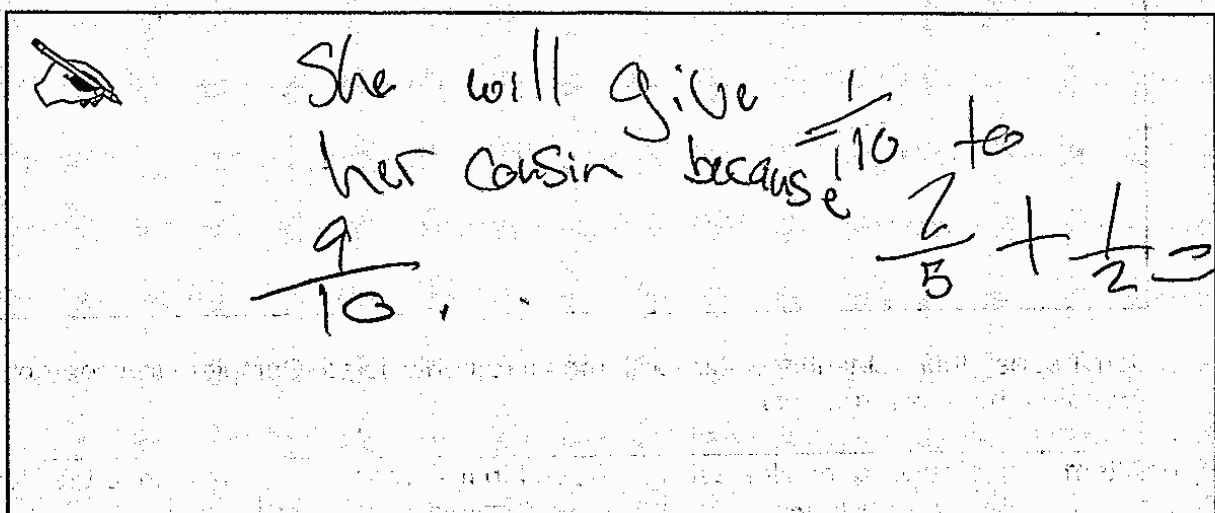
Bronwyn decides to give away some of her toys.

She will give $\frac{2}{5}$ of the toys to a shelter.

She will give $\frac{1}{2}$ of the toys to younger friends.

She will give the rest of the toys to her cousin.

- a. What fraction of the toys will Bronwyn give to her cousin? Show with words and equations how you found this fraction.



She will give $\frac{1}{10}$ to her cousin because $\frac{2}{5} + \frac{1}{2} = \frac{9}{10}$.

- b. Bronwyn is giving away 20 toys total. Complete the chart to show how many toys she will give to each person or group:

| Where Toys Are Going | Fraction of Bronwyn's Toys | Number of toys |
|----------------------|----------------------------|----------------|
| A shelter | $\frac{2}{5}$ | 10 |
| Younger friends | $\frac{1}{2}$ | 5 |
| Her cousin | $\frac{1}{10}$ | 5 |

Anchor 9

Litho 00795200134

Total Content Points: 1 (5.NF.A.2)

Total Practice Points: 0

In Part A, the student correctly calculates the fraction of toys that Bronwyn will give to her cousin $\left(\frac{1}{10}\right)$ (5.NF.A.2). The student provides neither a complete explanation nor an equation for calculating the missing $\frac{1}{10}$ (no credit for MP6). In Part B, the student does not find $\frac{2}{5}$ of 20, incorrectly answering “10” (no credit for 5.NF.B.4x) and does not find $\frac{1}{2}$ of 20, incorrectly answering “5” (no credit for 5.NF.B.4z). Although all three numbers in the chart are incorrect, the student recognizes that the number of toys needs to total to 20 (10, 5, 5), but there is no evidence in the student’s work indicating recognition that the two fractions must be subtracted from the whole (no credit for MP2).

Total Awarded Points: 1 out of 5

Toys Task

Bronwyn decides to give away some of her toys.

She will give $\frac{2}{5}$ of the toys to a shelter.

She will give $\frac{1}{2}$ of the toys to younger friends.

She will give the rest of the toys to her cousin.

- a. What fraction of the toys will Bronwyn give to her cousin? Show with words and equations how you found this fraction.

Handwritten work showing the calculation of the fraction of toys given to the cousin:

$$\frac{2}{5} - \frac{1}{2} = \frac{4}{10} - \frac{5}{10} = \frac{9}{10}$$

she will give $\frac{9}{10}$ to her cousin

- b. Bronwyn is giving away 20 toys total. Complete the chart to show how many toys she will give to each person or group:

| Where Toys Are Going | Fraction of Bronwyn's Toys | Number of toys |
|----------------------|----------------------------|----------------|
| A shelter | $\frac{2}{5}$ | 3 |
| Younger friends | $\frac{1}{2}$ | 2 |
| Her cousin | $\frac{9}{10}$ | 10 |

Anchor 10

Litho 00285200136

Total Content Points: 0

Total Practice Points: 0

In Part A, the student only finds the sum of the two fractions $\left(\frac{9}{10}\right)$ and does not correctly calculate the fraction of toys that Bronwyn will give to her cousin (no credit for 5.NF.A.2). Furthermore, the student fails to provide a precise explanation or equation for calculating the missing $\frac{1}{10}$ (no credit for MP6). In Part B, the student does not find $\frac{2}{5}$ of 20, incorrectly answering “3” (no credit for 5.NF.B.4x) and does not find $\frac{1}{2}$ of 20, incorrectly answering “2” (no credit for 5.NF.B.4z). There is no indication that the student recognizes that the two fractions must be subtracted from the whole or that the number of toys in the chart needs to total to 20 (no credit for MP2).

Total Awarded Points: 0 out of 5