MCAP Maryland Comprehensive Assessment Program

Practice Test Answer and Alignment Document
Mathematics – Grade 5
Pencil-and-Paper

The following pages include the answer keys for all machine-scored items. A sample student response for the top score is included for all hand-scored constructed response items.

- Some answer keys include one possible sample student response. Other valid methods for solving the problem can earn full credit unless a specific method is required by the item.
- In items where the scores are awarded for full and partial credit, the definition of partial credit will be confirmed during range-finding (reviewing sets of real student work).
- If students make a computation error, they can still earn points for reasoning or modeling.

Section 1

Item Number	Answer Key	Evidence Statement Key/ Content Scope
1.	D	5.NBT.B.5
2.	B	5.NF.A.2
3.	D	5.MD.A.1
4.	B	5.NF.B.7b
5.	C	5.OA.A.2
6.	A	5.NBT.A.1
7.	D	5.NF.A.1-1
8.	2400 cubic inches	5.MD.C.5b
9.	A	5.NF.B.6
10.	A, C, F	5.G.A.1/5.G.A.2
11.	A	5.NF.B.7c
12.	0.45	5.NBT.B.7-2

Section 2

Item Number	Answer Key	Evidence Statement Key/ Content Scope
1.	C	5.M.3 5.NF.A.1-3 5.NF.B.4b
2.	B	5.R.3 5.MD.A.1
3.	**Sample Top Score Response** The volume of the top box is $8 \times 24 \times 6 = 1152$ cubic inches. The volume of the bottom box is $20 \times 24 \times 6 = 2880$ cubic inches. The total volume of the boxes is $1152 + 2880 = 4032$ cubic inches. **Refer to the Holistic Rubric for 3-Point Modeling Constructed Response Items for score point information.**	5.M.4 5.MD.C.5c
4.	A	5.M.2 5.NF.B.4a
5.	**Sample Top Score Response** The 20 basic calculators require a total of $20 \times 3 = 60$ batteries. The 12 advanced calculators require a total of $12 \times 4 = 48$ batteries. In total, the teacher needs $60 + 48 = 108$ batteries. Dividing, $108 \div 24 = 4.5$. Therefore, the teacher needs to buy 5 packages of batteries. The 5 packages contain a total of $5 \times 24 = 120$ batteries, so the teacher will have $120 - 108 = 12$ batteries left over. **Refer to the Holistic Rubric for 4-Point Reasoning Constructed Response Items for score point information.**	5.R.4 5.NBT.B.5 5.NBT.B.6
6.	D	5.R.2 5.NF.A.1-4

Section 3

Item Number	Answer Key	Evidence Statement Key/ Content Scope
1.	B	5.NF.B.3
2.	36.008	5.NBT.A.3a
3.	C, E	5.NF.B.7a
4.	A	5.MD.C.5a
5.	D	5.G.B.4
6.	C	5.NF.B.4a
7.	745	5.NBT.B.6
8.	D	5.OA.B.3
9.	C	5.MD.B.2
10.	B	5.NBT.A.3b
11.	B	5.NF.A.1-2

Section 4

Item Number	Answer Key	Evidence Statement Key/ Content Scope
1.	C	5.R.1 5.NF.A.1-1
2.	A, C, E	5.M.1 5.OA.A.2
3.	**Sample Top Score Response** First example: 1005 ÷ 15 = 67. Since 67 doesn't end in 5, the claim is incorrect. Second example: $4235 \div 15 = 282\frac{1}{3}$. Since $282\frac{1}{3}$ doesn't end in 5 and has a remainder, the claim is incorrect. **Refer to the Holistic Rubric for 3-Point Reasoning Constructed Response Items for score point information.**	5.R.3 5.NBT.B.6
4.	B	5.R.4 5.NBT.B.7-2 5.NBT.B.7-3

Item Number	Answer Key	Evidence Statement Key/ Content Scope
5.	**Sample Top Score Response** The first step is correct and represents the number of servings of trail mix the hiker can make from the 20 cups of walnuts. Since $20 \div \frac{1}{3} = 60$, the hiker can make 60 servings of trail mix using all of the walnuts. The second step is correct and represents the number of servings of trail mix the hiker can make from the 24 cups of pretzels. Since $24 \div \frac{1}{2} = 48$, the hiker can make 48 servings of trail mix using all of the pretzels. The third step is correct and represents the number of servings of trail mix the hiker can make from the 18 cups of apricots. Since $18 \div \frac{1}{4} = 72$, the hiker can make 72 servings of trail mix using all of the apricots. The fourth step is incorrect. Since all three ingredients will be used for the trail mix, the hiker should have compared 60, 48, and 72 and used the least value as the number of servings of trail mix that can be made. Since 48 < 60 and 48 < 72, the hiker can only make 48 servings of trail mix. The hiker will use all of the pretzels to make the 48 servings of trail mix. (continued on next page)	5.M.5 5.NF.B.7c

Item Number	Answer Key	Evidence Statement Key/ Content Scope
5.	**Sample Top Score Response (continued)** Since the hiker can only make 48 servings of trail mix, and the hiker will use $\frac{1}{3}$ cup of walnuts for each serving, multiplying $\frac{1}{3}$ by 48 gives the number of cups of walnuts the hiker will use in the trail mix, which is 16. Subtracting this value from the 20 cups of walnuts the hiker has means there will be 20 – 16 or 4 cups of walnuts left over. Since the hiker can only make 48 servings of trail mix, and the hiker will use $\frac{1}{4}$ cup of apricots for each serving, multiplying $\frac{1}{4}$ by 48 gives the number of cups of apricots the hiker will use in the trail mix, which is 12. Subtracting this value from the 18 cups of apricots the hiker has means there will be 18 – 12 or 6 cups of apricots left over. **Refer to the Holistic Rubric for 4-Point Modeling Constructed Response Items for score point information.**	5.M.5 5.NF.B.7c
6.	A	5.M.3 5.NBT.B.7-1