**WINTER STUDENT ENRICHMENT MATHEMATICS K–5
ANSWERS**



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**Prince George’s County Public Schools**

**Office of Academic Programs**

**Department of Curriculum and Instruction**

**Kindergarten Mathematics Winter Student Enrichment**

**Answer Key**

1. **X’s on calendar will vary.**

**December**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sunday | Monday | tuesday | Wednesday | Thursday | friday | saturday |
|  |  |  |  |  | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 |

**January**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sunday | Monday | tuesday | Wednesday | Thursday | friday | saturday |
| 1 | 2 | Return to school |  |  |  |  |
|  |  |  |  |  |  |  |

**2.** How many groups of 5? \_\_\_\_\_\_**4\_**\_\_\_ groups

How many snowmen in all groups? \_\_\_\_**20**\_\_\_\_\_\_ snowmen

 How many snowmen in no group? \_\_\_\_\_**3**\_\_\_\_\_ snowmen

**3. Mia**

**4. Cam**

**5. Lee**

**6. The picture will show three children each getting four cookies.**

 **7.**   **Answers will vary**. **Sample:** There are 12 cookies altogether.

**8. Order of answers will vary.**

 **Pictures will represent: 0 + 5 = 5, 1 + 4 = 5, 2 + 3 = 5, 3 + 2 = 5, 4 + 1 = 5, 5 + 0 = 5**

**9. 7 (seven)**

**10. Answers will vary.**

**Grade 1 Mathematics Winter Student Enrichment**

**Answer Key**

1. **Answers may vary. Samples:** 9 + 9 = 18, 12 + 6 = 18, 10 + 8 = 18, 11 + 7 = 18
2. **Answers may vary for ways to show 10.**

**Samples First way:** 5 red hats + 5 blue hats =10 hats, 6 red hats + 4 blue hats = 10

**There will be 2 snowmen with no hat.**

**Samples Second way:** 3 red hats + 7 blue hats = 10 hats, 8 red hats +2 blue hats = 10

 **Seven more snowmen are needed to make another set of 10.**

1. **Answers may vary. Sample:** There were **8** girls and **7** boys in the group. Each of the girls wore bright red mittens, so there were **16** red mittens playing in the snow. The boys all wore green mittens, so there were **14** green mittens.

**Complete the chart:**

|  |  |
| --- | --- |
| **Number of children** | **15** |
| **Number of girls** | **8** |
| **Number of boys** | **7** |
| **Total number of mittens in all** | **30** |
| **Total pairs of mittens** | **15** |
| **Total number of fingers in all** | **150** |

1. **Answers will vary. Sample:**

I have 8 pieces of candy. My mom gives me 2 fewer pieces of candy. How many pieces of candy do I have in all?

1. **Answers will vary. Sample:**

There were 14 pencils in my bag. I gave 7 pencils to my friend. How many pencils are left in my bag?

1. **Answers will vary. Sample:** The doubles fact: 5 + 5 = 10 so 5 + 6 will be one more or 11.
2. **Answers will vary. Sample:** 6 + 9 + 5 = 20
3. **25 Explanations may vary.** The pattern is skip counting by 10 and 25 is missing.
4. **The incorrect comparisons:** 16 › 20, 10 < 5, 8 › 8

 **The correct comparisons are:**  16 ‹ 20, 10 >5, 8 = 8. **Explanations will vary.**

1. **Answers will vary. Sample:** Group 1: A, 9, 7, 2 are in the same group. They have straight edges.

 Group 2: M and S are in the same group. They are circles.

**Grade 2 Mathematics Winter Student Enrichment**

**Answer Key**

 **1. Answers may vary. Sample answer:**

 My word: \_\_Math\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ My estimate for the cost is\_\_\_\_40¢\_\_\_\_\_\_\_\_

 Determine the actual cost. Write the number sentence for the actual cost.

 \_\_\_\_\_13¢ + 15¢ + 10¢ + 12¢ = 50¢\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 What is the most number of times that you could write your word(s) and stay under$2? How do you know your answer is correct? **Explain: I can write “math” 3 times. 50¢ + 50¢ + 50¢ = $1.50. If I write it 4 times that will be exactly $2. I have to be less than $2 to stay under only up to $1.99.**

 **2 .** 

1. **Answers may vary. Sample answer:**

|  |  |
| --- | --- |
| **Name** | **Number of snowballs** |
| **Pat** | 4 |
| **Sam** | 8 |
| **Kim** | 5 |
| **Kyle** | 2 |
| **Total** | 19 |

**4.-6. Answers will vary. Sample answers:**

4. 201 5. 130 6. 237 greatest to least 237, 201, 130

**7.-9. Answers may vary. Sample answers:**

|  |  |
| --- | --- |
| **Skier #1** |  **60, 16, and 24** |
| **Skier #2** |  **25, 35, and 40** |
| **Skier #3** | **45 and 55** |

**10. 32¢ - 2 dimes, 2 nickels, and 2 pennies**

**Grade 3 Mathematics Winter Student Enrichment**

**Answer Key**

1. 72 cookies (pictures will show 4 boxes, each box will have 2 bags and each bag will have 9 cookies) (3.OA.7,8)
2. 18 + 18 + 18 + 18 = 72 or 8 x 9 = 72 72 ÷ 8 = 9 Each friend will receive 9 cookies. (3.OA.6,7,8)

 **3.** On the grid, shade in an area of 10 x 4 units or 40 units. The area of Denise’s room is

 40 square units, 10 units x 4 units = 40 square units. (3.NBT.3, 3.MD.6, 7, 7b)

 **4.** 21 x 4 = 7 x 3 x 4 (could have 21 x 1 for the blank, but 21 x1 is not a basic fact) (3.OA.5,6)

 **5.** No, Yes, Yes, No (3.MD.6, 7, 7a, b, 3.OA.3)

 **6.** True, False, False, True (3.MD.8, 3.OA.8)

**7.** The perimeter of the picture is 8cm + 8cm + 10cm +10cm = 36cm. Mario does not have

 enough string because 18 < 36. (3.MD.8, 3.NBT.2)

**Grade 4 Mathematics Winter Student Enrichment**

**Answer Key**

 **1.** \* Remember each number can only be used once.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **a.** 4, 4 or 4 | **b.** 3 | **c.** 3 | **d.** 4 or 4 | **e. 3** | **f. \*Bonus****Answers will vary.**  |

1. Answer: 3 and 4. Answers may vary. Whole numbers must have an equivalent amount of space between them. The example shows each tick mark representing 1/6.

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3 4 4 5

1. Puzzle 1- 3/4, Puzzle 2- 2/3, Puzzle 3- 3/5
2. The length is 20 feet and the width is 24 feet (24 ft. x 20 ft. = 480sq ft.) Fencing =perimeter= 24 ft. + 20 ft. + 24 ft. + 20 ft. = **88 ft. (Explanation answers will vary.)**
3. **Answers will vary**. See sample below. Numbers should be accompanied with rectangular diagrams.

|  |
| --- |
| 20 ft. x 25 ft. = 500 sq. ft.25 ft. x 18 ft. = 450 sq. ft.18 ft. x 20 ft. = 360 sq. ft. Total 1,310 sq. ft. |

 **6.** 15 bicycles and 6 go-carts

1. 48 fleas in all

 **8.** 384 pts.

**Grade 5 Mathematics Winter Student Enrichment**

**Answer Key**

**1.-2.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| a. 4 | b. 0.349 | c. 0.365 | d. 0.221 | e. 2.751 |
|  |

f. Two numbers--one higher than 3.521 and one lower than 3.521

 **Answers may vary. A = 0.375** should be a little more than a 1/3 and **B = 3.521** should be a little more than 3 ½. There must be equal distance between each whole number between 0 - 3. The point must be directly on the number line (not above). The ticks below represent fourths.

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**3.**

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 0 **A** **1**  **2**  **3**  **B**

**4.**



\*\* Quadrilateral

**5.-8.**

 Answers **will vary.** All of the answers must have a zero in the one’s place in order to be

divisible by 10. That would also mean that the number is divisible by 2 and 5. If the number is divisible by 9, it is also divisible by 3.

 **Sample answers:**

|  |  |  |  |
| --- | --- | --- | --- |
| 1. 2,250
 | 1. 3,780
 | 1. 4,410
 | 1. 5,670
 |

1. **a.** **7/8 of the box each day** ½ = 4/8, ¼ = 2/8; 4/8 + 1/8 + 2/8 = 7/8

**b. 1/12 of the carton is left**: After Sammy 2/3 left 2/3 = 4/6 (3/3 - 1/3 = 2/3), after Georgia 3/6 left (2/3 = 4/6 4/6 -1/6 = 3/6) 3/6 = 6/12; after Tikki 1/12 is left (6/12 -5/12 = 1/12)

 **10. a**. 13 pages will have cards **b.** 12 pages will be completely filled

 **c.** Each pack cost $12.50 **d. (Answers will vary.) The division problem is the**

 **same for all problems. The remainder is treated**

 **differently.**