**BelovED Community Charter School**

# Math 6
# Summer Packet

**2021**

*Name:* _____

**BelovED Community Charter School**
**Middle School Mathematics Department**
508 Grand St.
Jersey City, NJ 07302

June 2021

Dear Parents and Guardians:

Attached are the summer curriculum review materials for your scholar entering Math 6. This booklet was prepared by the BelovED Community Charter School Middle School Math Department and contains topics that reflect content learned in prerequisite courses. These materials must be completed and brought to class on the first day of school in September.

Your child is required to complete this booklet over the summer. Completion of the packet on time with work shown will count as a 100% test grade on the first day of school to be added to your Quarter 1 average.

This packet should be completed without a calculator. In the event that you need assistance with this work, please search for instructional videos at www.khanacademy.org.

Thank you for your cooperation.

Sincerely,

Ms. Victoria de Leon
Academic Dean

Mrs. Didi Martín
Dean of Students

1. Which statement about the corresponding terms in both Pattern A and Pattern B is always true?

   Pattern A: 0, 5, 10, 15, 20, 25, 30

   Pattern B: 0, 10, 20, 30, 40, 50, 60

   **A.** Each term in Pattern A is 2 times the corresponding term in Pattern B.

   **B.** Each term in Pattern A is $\frac{1}{2}$ times the corresponding term in Pattern B.

   **C.** Each term in Pattern A is 5 less than the corresponding term in Pattern B.

   **D.** Each term in Pattern A is 10 less than the corresponding term in Pattern B.

2. An expression is shown.

$$\frac{5}{6} + \frac{3}{12}$$

   Which expressions have like denominators that could be used as a next step to add the two fractions?

   Select the **two** correct answers.

   **A.** $\frac{5}{6} + \frac{1}{4}$

   **B.** $\frac{5}{6} + \frac{3}{6}$

   **C.** $\frac{10}{12} + \frac{3}{12}$

   **D.** $\frac{5}{12} + \frac{6}{12}$

   **E.** $\frac{5}{12} + \frac{6}{24}$

   **F.** $\frac{20}{24} + \frac{6}{24}$

Shannon is building a rectangular garden that is 18 feet wide and 27 feet long.

**3.** **Part A**

Write an equation that represents the area of Shannon's garden. In your equation, let *g* represent the area of Shannon's garden. Then solve your equation.

Enter your equation and your solution in the space provided.

**Part B**

Shannon is putting a fence around the garden, except where there is a gate that is 3 feet wide.

One foot of the fence costs $43. The cost of the gate is $128.

Write an expression that represents the total cost of the fence and the gate.

Explain how you determined your expression.

Enter your expression and your explanation in the space provided.

**Part C**

Use your expression from Part B to find the total cost, in dollars, of the fence and the gate.

Enter your answer in the space provided.

**4.** Which statement correctly compares two values?

**A.** The value of the 6 in 26.495 is $\frac{1}{10}$ the value of the 6 in 17.64.

**B.** The value of the 6 in 26.495 is 10 times the value of the 6 in 17.64.

**C.** The value of the 6 in 26.495 is $\frac{1}{100}$ the value of the 6 in 17.64.

**D.** The value of the 6 in 26.495 is 100 times the value of the 6 in 17.64.

**5.** What is the volume of the rectangular prism in cubic units?



= 1 unit cube
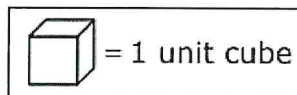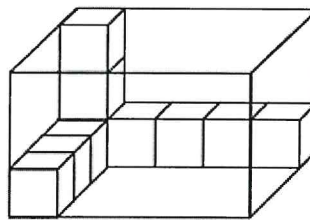
Enter your answer in the box.

**6.** In this right rectangular prism, each small cube measures 1 unit on each side.
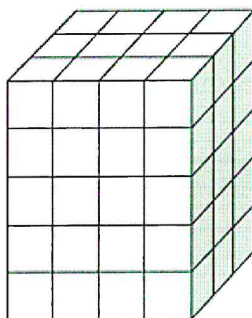


- What is the volume of the prism?
- Explain how you found the volume. You may show your work in your explanation.
- What would be the dimensions of a new right rectangular prism that has 20 fewer unit cubes than the original prism?
- Explain how you determined the dimensions of the new right rectangular prism.

**7.** Select the **two** correct statements.

**A.** The product of $\frac{3}{5}$ and 4 is greater than 4.

**B.** The product of $\frac{3}{5}$ and 4 is less than $\frac{3}{5}$.

**C.** The product of $1\frac{1}{2}$ and 2 is greater than $1\frac{1}{2}$.

**D.** The product of $1\frac{1}{2}$ and 2 is less than 2.

**E.** The product of $\frac{13}{4}$ and $\frac{5}{2}$ is greater than $\frac{13}{4}$.

**F.** The product of $\frac{13}{4}$ and $\frac{5}{2}$ is less than $\frac{5}{2}$.

8. Which figure is always a rectangle?

   A. square

   B. rhombus

   C. quadrilateral

   D. parallelogram

9. Which expression matches the statement, "the sum of 2 and 4 subtracted from 9"?

   A. $2 + 9 - 4$

   B. $9 - 2 + 4$

   C. $9 - (2 + 4)$

   D. $(2 + 4) - 9$

Diana works at a clothing store. She sold $\frac{1}{5}$ of the total number of green shirts on Monday and $\frac{3}{12}$ of the total number of green shirts on Tuesday.

10. **Part A**

    What fraction of green shirts did Diana sell on Monday and Tuesday?

    A. $\frac{8}{13}$

    B. $\frac{4}{17}$

    C. $\frac{5}{36}$

    D. $\frac{27}{60}$

**Part B**

Diana sold $\frac{2}{15}$ of the total number of green shirts on Wednesday. What is the difference in the fraction of the total number of green shirts that were sold on Tuesday and Wednesday?

A.  $\frac{7}{60}$

B.  $\frac{5}{27}$

C.  $\frac{1}{3}$

D.  $\frac{1}{12}$

**11.** Greg is volunteering at a track meet. He is in charge of providing the bottled water. Greg knows these facts:

- The track meet will last 3 days.
- There will be 117 athletes, 7 coaches, and 4 judges attending the track meet.
- One case of bottled water contains 24 bottles.

The table shows the number of bottles of water each athlete, coach, and judge will get for each day of the track meet.

## Bottled Water for Track Meet

| Person Attending | Number of Bottles |
|:---:|:---:|
| Athlete | 4 |
| Coach | 3 |
| Judge | 2 |

What is the **fewest** number of cases of bottled water Greg will need to provide for all the athletes, coaches, and judges at the track meet? Show your work or explain how you found your answer using equations.

Enter your answer and your work or explanation in the space provided.

**12.** Which of these are equal to 83.041?

Select the **two** correct answers.

A. eighty-three and forty-one tenths

B. $8 \times 10 + 3 \times 1 + 4 \times \frac{1}{10} + 1 \times \frac{1}{100}$

C. eighty-three and forty-one hundredths

D. $8 \times 10 + 3 \times 1 + 4 \times \frac{1}{100} + 1 \times \frac{1}{1,000}$

E. eighty-three and forty-one thousandths

**13.** Len walks $\frac{3}{10}$ mile in the morning to school. He walks $\frac{2}{5}$ mile in the afternoon to a friend's house.

Len says that he walks a total of $\frac{5}{15}$ mile in the morning and afternoon. Which **two** statements are true?

A. Since $\frac{3}{10}$ plus $\frac{2}{5}$ is $\frac{5}{15}$, the total of $\frac{5}{15}$ is reasonable.

B. Since $\frac{5}{15}$ is less than $\frac{2}{5}$, the total of $\frac{5}{15}$ is not reasonable.

C. The fractions $\frac{5}{15}$, $\frac{3}{10}$, and $\frac{2}{5}$ are all less than $\frac{1}{2}$, so the total of $\frac{5}{15}$ is reasonable.

D. The fraction $\frac{5}{15}$ is $\frac{1}{3}$, and $\frac{1}{3}$ is greater than $\frac{3}{10}$. Since $\frac{5}{15}$ is greater than one of the addends, the total of $\frac{5}{15}$ is reasonable.

E. The fractions $\frac{3}{10}$ and $\frac{2}{5}$ are each greater than $\frac{1}{4}$, so the total must be greater than $\frac{1}{2}$. The fraction $\frac{5}{15}$ is less than $\frac{1}{2}$, so the total of $\frac{5}{15}$ is not reasonable.

**14. Part A**

The volume of one section of Tank A is 24 cubic feet. The volume of the other section of Tank A is 96 cubic feet.

What is the total volume, in cubic feet, of Tank A?

**A.** 4

**B.** 72

**C.** 120

**D.** 2,304

**Part B**

Tank B has the same volume as Tank A.

The volume of one section of Tank B is 45 cubic feet. What is the volume, in cubic feet, of the other section of Tank B?

Enter your answer in the box.

**15.** Which expression is equal to $\frac{7}{8}$?

**A.** $8 - 7$

**B.** $7 \times 8$

**C.** $\frac{8}{7}$

**D.** $7 \div 8$

**16.** Kurt drew a rectangular maze with a length of $\frac{3}{4}$ foot and a width of $\frac{5}{12}$ foot. What is the area, in square feet, of Kurt's maze?
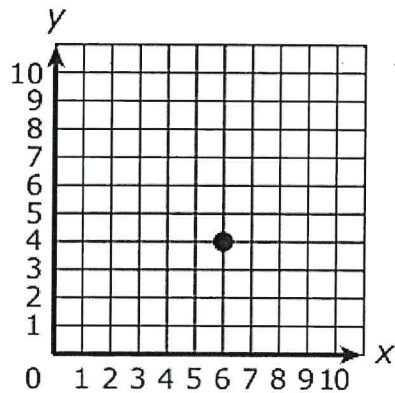
A. $\frac{15}{48}$

B. $\frac{8}{16}$

C. $\frac{20}{36}$

D. $\frac{15}{16}$

**17.** Select the **three** statements that correctly describe the point plotted on the coordinate plane.



**A.** The point is located at the ordered pair (4, 6).

**B.** The point is located at the ordered pair (6, 4).

**C.** The *x*-coordinate is 6 and the *y*-coordinate is 4.

**D.** The *x*-coordinate is 4 and the *y*-coordinate is 6.

**E.** The point is 4 units to the right of the origin on the *x*-axis and 6 units up from the origin on the *y*-axis.

**F.** The point is 6 units to the right of the origin on the *x*-axis and 4 units up from the origin on the *y*-axis.

**18.** An egg farm packages 264 total cartons of eggs each month. The farm has 3 different sizes of cartons.

- The small carton holds 8 eggs, and $\frac{1}{6}$ of the total cartons are small.

- The medium carton holds 12 eggs, and $\frac{2}{3}$ of the total cartons are medium.

- The large carton holds 18 eggs, and the rest of the total cartons are large.

Determine how many of each size of carton is needed each month. Then determine how many eggs are needed to fill the 264 cartons. Show your work or explain your answers.

Enter your answers and your work or explanations in the space provided.

**19. Part A**

Select the **two** equations that are correct when the number 20 is entered in the box.
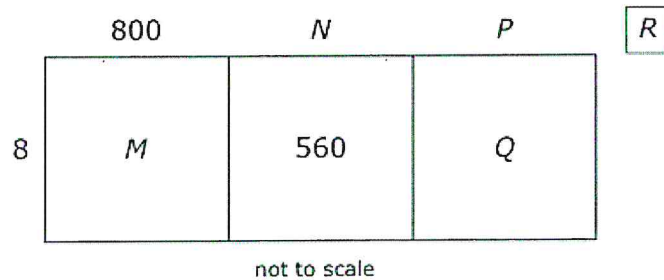
A. $\square \times 85 = 1{,}700$

B. $\square \div 4 = 50$

C. $1{,}500 \div \square = 75$

D. $120 \times 6 = \square$

E. $\square \times 50 = 100$

**Part B**

Select the **two** equations that are correct when the number 200 is entered in the box.

A. $\square \times 85 = 17{,}000$

B. $\square \div 40 = 50$

C. $15{,}000 \div \square = 75$

D. $1{,}200 \times 6 = \square$

E. $\square \times 50 = 1{,}000$

**20.** A teacher drew an area model to find the value of 6,986 ÷ 8.

### Teacher's Model for 6,986 ÷ 8

|       | 800 | N | P | R |
|-------|-----|---|---|---|
| **8** | M | 560 | Q | |

not to scale

- Determine the number that each letter in the model represents and explain each of your answers.
- Write the quotient and remainder for 6,986 ÷ 8.
- Explain how to use multiplication to check that the quotient is correct. You may show your work in your explanation.

Enter your answers and your explanations in the space provided.

**21.** Enter your answer in the box.

$0.35 \times 1.5 =$

**22.** Jim uses ribbon to make bookmarks. Jim has 9 feet of ribbon. He uses $\frac{1}{3}$ foot of ribbon to make each bookmark.

What is the total number of bookmarks Jim makes with all 9 feet of ribbon?

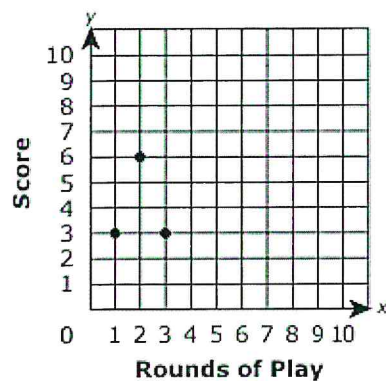Enter your answer in the box.

Mia is playing several rounds of a word game. Each coordinate pair shows the number of a round and Mia's score for that round. She is keeping track of these coordinate pairs on a coordinate plane.

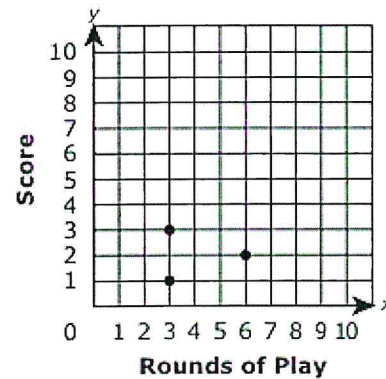- Round 1: (1, 3)
- Round 2: (2, 6)
- Round 3: (3, 3)

**23. Part A**

Which coordinate plane correctly shows Mia's scores for the first three rounds of play?
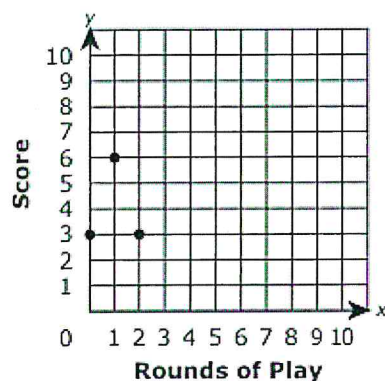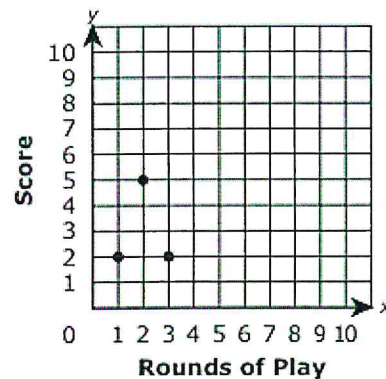
**A.**



Rounds of Play

**B.**



Rounds of Play

**C.**



Rounds of Play

**D.**



Rounds of Play

**24.** Enter your answer in the box.

1,534 ÷ 26 =

**25.** Which **two** conversions are correct?

**A.** 7 mm = 70 cm

**B.** 7 cm = 0.07 m

**C.** 7,000 m = 7 km

**D.** 0.7 cm = 70 mm

**E.** 7 m = 7,000 km

**26.** A cereal box has a height of 32 centimeters. It has a base with an area of 160 square centimeters.

What is the volume, in cubic centimeters, of the cereal box?

Enter your answer in the box.

**27.** On Saturday, Craig rode his bike $\frac{5}{8}$ of a mile. On Sunday, he rode his bike $\frac{1}{2}$ of a mile. Craig added $\frac{5}{8}$ and $\frac{1}{2}$ to find the total distance, in miles, he rode his bike on the two days. Craig said $\frac{5}{8} + \frac{1}{2} = \frac{6}{10}$ and plotted $\frac{6}{10}$ on this number line.
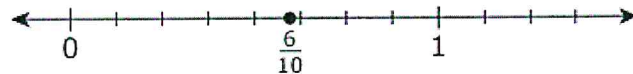


- Explain why Craig's answer is not reasonable.
- Find the total distance, in miles, Craig rode on his bike on Saturday and Sunday.
- Explain how to use the number line to show your answer is correct.

Enter your answer and explanations in the space provided.

**28.** Jen makes a rectangular banner. It is $\frac{3}{4}$ yard long and $\frac{1}{4}$ yard wide.
What is the area, in square yards, of the banner?

**A.** $\frac{3}{16}$

**B.** $\frac{3}{8}$

**C.** 1

**D.** 3

**29.** Which explanation about figures is correct?

**A.** All rhombuses are parallelograms. Parallelograms have 2 pairs of parallel sides.
Therefore, all rhombuses have 2 pairs of parallel sides.

**B.** All rhombuses are parallelograms. Parallelograms have exactly 1 pair of parallel sides.
Therefore, all rhombuses have exactly 1 pair of parallel sides.

**C.** Only some rhombuses are parallelograms. Parallelograms have 2 pairs of parallel sides.
Therefore, only some rhombuses have 2 pairs of parallel sides.

**D.** Only some rhombuses are parallelograms. Parallelograms have exactly 1 pair of parallel sides.
Therefore, only some rhombuses have exactly 1 pair of parallel sides.

**30.** Which **two** statements about rounding decimals are correct?

    **A.** The number 5.066 rounded to the nearest hundredth is 5.07.

    **B.** The number 5.074 rounded to the nearest hundredth is 5.08.

    **C.** The number 5.117 rounded to the nearest hundredth is 5.10.

    **D.** The number 5.108 rounded to the nearest hundredth is 5.11.

    **E.** The number 5.025 rounded to the nearest hundredth is 5.02.

Use the information provided to answer Part A and Part B for question 31.

Tom has a water tank that holds 5 gallons of water.

**31. Part A**

Tom uses water from a full tank to fill 6 bottles that each hold 16 ounces and a pitcher that holds $\frac{1}{2}$ gallon.

How many ounces of water are left in the water tank?

Enter your answer in the box.

**Part B**

Tom drinks 4 pints of water a day.

How many full tanks of water will he drink in 30 days?

Enter your answer in the box.