



Bayonne Public Schools

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Dear Parents/Guardians,

As the end of the school year approaches, the Mathematics department has prepared a Summer Bridges Packet for your child to complete over the summer months.

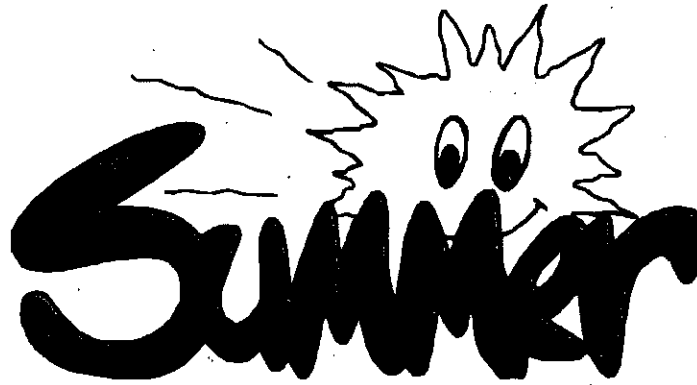
These packets are:

- To reinforce previous mathematics topics they learned throughout the year
- To keep mathematics topics current
- To move forward with new mathematics vocabulary words to prepare students for future mathematics success

All assignments must be presented to your child's mathematics teacher no later than **September 18, 2019**. The packet will be graded. Students must show work for credit. In addition, students will receive a maximum of 10 points towards the first mathematics assessment in marking period one based on the correct completion of the summer bridges assignment.

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"The Bayonne Public School Family- Moving From Good to Great"



Bridges
Grade 7
Into
Grade 8

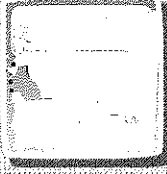
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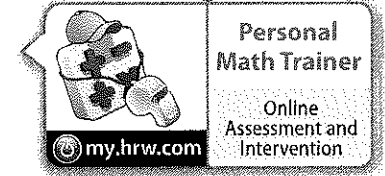
Topic 1: Rational Numbers

In the space provided, write the definition of each vocabulary word and an example or picture for each term.

Word	Definition	Example/Picture
Integer		
Fraction		
Improper Fraction		
Mixed Number		
Equivalent fraction		
Rational Number		
Relatively Prime		
Reciprocal		



incoming 9/8



Selected Response

1. Evaluate $a + b$ for $a = 34$ and $b = -6$.

(A) 28 (C) -28
(B) 40 (D) -40

2. A triangle has sides with lengths of $5x - 7$, $3x - 4$, and $2x - 6$. What is the perimeter of the triangle?

(A) $10x - 17$ (C) $4x - 9$
(B) $6x - 17$ (D) $-7x$

3. Which of the following ratios does *not* form a proportion?

(A) $\frac{28}{49} \stackrel{?}{=} \frac{4}{7}$ (C) $\frac{4}{7} \stackrel{?}{=} \frac{16}{35}$
(B) $\frac{4}{7} \stackrel{?}{=} \frac{16}{28}$ (D) $\frac{4}{7} \stackrel{?}{=} \frac{20}{35}$

4. For a sale, a store decreases its prices on all items by 25%. An item that cost \$120 before the sale now costs $\$120 - 0.25(\$120)$. What is another expression for the sale price?

(A) $\$120 - 25$ (C) $0.25(\$120)$
(B) $0.75(\$120)$ (D) $\$120 - 75$

5. Write an equation that models the situation and find its solution.

It's going to be Lindsay's birthday soon, and her friends Mary, Mikhail, Anne, Kim, Makoto, and Isabel have contributed equal amounts of money to buy her a present. They have \$36.00 to spend between them. Determine how much each contributed.

(A) $6x = \$36.00;$ (C) $6x = \$36.00;$
 $x = \$108.00$ $x = \$216.00$
(B) $7x = \$36.00;$ (D) $6x = \$36.00$
 $x = \$5.14$ $x = \$6.00$

6. Solve $4(a + 4) - 2 = 34$.

(A) $a = -5$ (C) $a = 5$
(B) $a = 8$ (D) $a = -8$

7. Four sisters bought a present for their father. They received a 10% discount on the original price of the gift. After the discount was taken, each sister paid \$9.00. What was the original price of the gift?

(A) \$40.00 (C) \$16.00
(B) \$36.00 (D) \$32.73

8. Justin is redoing his bathroom floor with tiles measuring 6 in. by 13 in. The floor has an area of 8,500 in². What is the least number of tiles he will need?

(A) 448 tiles (C) 109 tiles
(B) 108.97 tiles (D) 108 tiles

9. One winter day, the temperature ranged from a high of 20 °F to a low of -25 °F. By how many degrees did the temperature change?

(A) -5 °F (C) -15 °F
(B) 55 °F (D) 45 °F

10. Terry drove 310 miles in 5 hours at a constant speed. How long would it take him to drive 403 miles at the same speed?

(A) 3 hours (C) 7 hours
(B) 6.5 hours (D) 62 hours

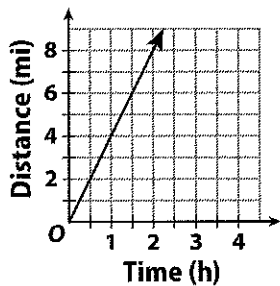
11. 128 is 74% of what number? If necessary, round your answer to the nearest hundredth.

(A) 0.58 (C) 1.73
(B) 94.72 (D) 172.97

12. Tell whether the data show a direct variation. If so, identify the constant of variation.

Number of Baskets	Cost
5	\$15
7	\$21
9	\$27
13	\$39
15	\$45

- (A) direct variation; $k = \frac{1}{3}$
 (B) not a direct variation
 (C) direct variation; $k = 3$
 (D) direct variation; $k = 10$
13. The graph shows the distance Jamie walks over time. Does she walk at a constant or variable speed? How fast is Jamie walking?



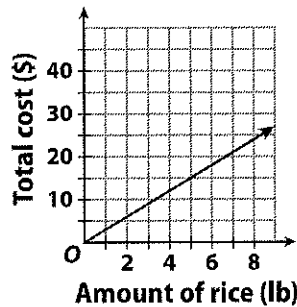
- (A) variable speed; 8 mi/h
 (B) constant speed; 4 mi/h
 (C) constant speed; 2 mi/h
 (D) constant speed; 8 mi/h
14. Darryl is reading a book at the rate of 4.5 pages per minute. What ordered pair on a graph of his reading rate would represent the number of minutes it would take him to read 90 pages?
- (A) (20, 90)
 (B) (4.5, 20)
 (C) (90, 4.5)
 (D) (4.5, 90)

Mini-Tasks

15. The water level in a plastic pool changed by -8 gallons each hour due to a small hole in the bottom. After 6 hours, the pool contained 132 gallons. How much water was in the pool originally?
-
16. The ratio of adults to children attending a new exhibit at the museum was found to be 8:5. Based on this ratio, if 390 people attended one day, how many would be children?
-

Performance Task

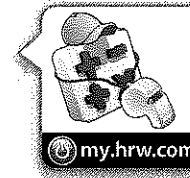
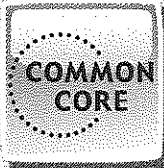
17. The graph shows the relationship between the total cost and the number of pounds of rice purchased.



Part A: What does (6, 18) represent?

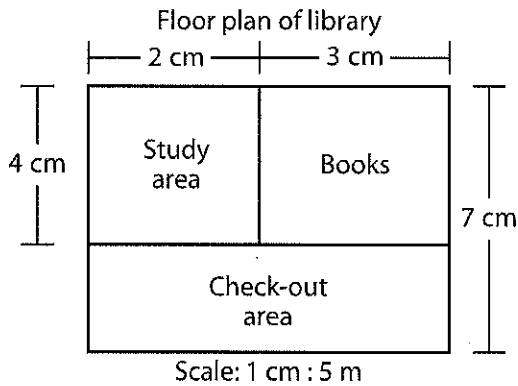
Part B: Which point represents the unit price?

Part C: How many pounds would you have to buy for the total to be \$12? Explain how to find the answer.

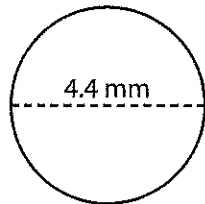


Selected Response

1. What are the actual dimensions of the Check-out Area?

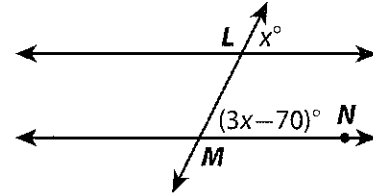


- (A) $25\text{ m} \times 15\text{ m}$ (C) $15\text{ m} \times 35\text{ m}$
 (B) $15\text{ m} \times 20\text{ m}$ (D) $2\text{ m} \times 4\text{ m}$
2. For a history fair, a school is building a circular wooden stage that will stand 2 feet off the ground. Find the area of the stage if the radius of the stage is 19 feet. Use 3.14 for π .
- (A) $1,133.54\text{ ft}^2$ (C) $2,267.08\text{ ft}^2$
 (B) 119.32 ft^2 (D) 4534.16 ft^2
3. Find the area of the circle to the nearest tenth. Use 3.14 for π .

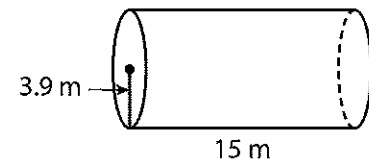


- (A) 47.7 mm^2 (C) 60.8 mm^2
 (B) 15.2 mm^2 (D) 13.8 mm^2
4. What is the solution of the inequality $-0.4x - 1.2 > 0.8$?
- (A) $x < -5$ (C) $x < -0.8$
 (B) $x < -1$ (D) $x > 5$

5. Find $m\angle LMN$.



- (A) $m\angle LMN = 40^\circ$ (C) $m\angle LMN = 35^\circ$
 (B) $m\angle LMN = 45^\circ$ (D) $m\angle LMN = 50^\circ$
6. Ralph is an electrician. He charges an initial fee of \$32, plus \$33 per hour. If Ralph earned \$197 on a job, how long did the job take?
- (A) 5.1 hours (C) 5 hours
 (B) 132 hours (D) 4 hours
7. Find the volume of the cylinder. Use 3.14 for π . Round your answer to the nearest tenth.



- (A) 183.7 m^3 (C) $2,865.6\text{ m}^3$
 (B) 716.4 m^3 (D) $2,755.4\text{ m}^3$
8. Which is the least valid way to simulate how many boys and girls are in a random sample of 20 students from a school population that is half boys and half girls?
- (A) Flip a coin 20 times, assigning one outcome to boys and the other to girls.
 (B) Drop 20 coins at once and count the number of each outcome.
 (C) Count how many boys and girls are in your math class and use a proportion.
 (D) Have a calculator generate 20 random integers and count the number of even and odd integers.

9. Roberto plays on the school baseball team. In the last 9 games, Roberto was at bat 32 times and got 11 hits. What is the experimental probability that Roberto will get a hit during his next time at bat? Express your answer as a fraction in simplest form.

- (A) $\frac{32}{11}$ (C) $\frac{21}{32}$
 (B) $\frac{11}{32}$ (D) $\frac{11}{21}$

10. A coin-operated machine sells plastic rings. It contains 14 pink rings, 10 green rings, 9 purple rings, and 13 black rings. Sarah puts a coin into the machine. Find the theoretical probability she gets a pink ring. Express your answer as a decimal. If necessary, round your answer to the nearest thousandth.

- (A) 3.286 (C) 4.6
 (B) 0.304 (D) 0.217

11. A manufacturer inspects a sample of 400 personal video players and finds that 399 of them have no defects. The manufacturer sent a shipment of 2000 video players to a distributor. Predict the number of players in the shipment that are likely to have no defects.

- (A) 5 (C) 399
 (B) 1995 (D) 1950

12. An experiment consists of rolling two fair number cubes. What is the probability that the sum of the two numbers will be 8? Express your answer as a fraction in simplest form.

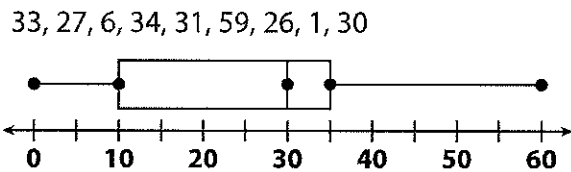
- (A) $\frac{5}{36}$ (C) $\frac{36}{5}$
 (B) $\frac{1}{9}$ (D) $\frac{31}{36}$

Mini-Tasks

13. A map of Australia has a scale of 1 cm : 110 km. If the distance between Darwin and Alice Springs is 1444 kilometers, how far apart are they on the map, to the nearest tenth of a centimeter?

14. The student council president wants to find out the opinion of the students on the issue of school lunch options. The president sends out a survey to a random sample of students in the school. What type of sample is this? Explain.

15. Using the following data, state the errors in the box-and-whisker plot.



Performance Task

16. The number of goals scored by a hockey team in each of its first 10 games is 2, 4, 0, 3, 4, 1, 3, 1, 1, and 5.

a. Find the mean number of goals scored.

b. Find the mean absolute deviation (MAD) of the number of goals scored.

c. A second team in the same division scores a mean of 4.5 goals in its first 10 games, with the same MAD as the team above. Compare the difference in the teams' mean number of goals with the MAD in the number of goals scored.
