PARCC Review KEY Name: Key

NON-CALCULATOR

1. Find the product.

5.2(7.14)

$$\begin{array}{r} {\scriptstyle 2} \\ 7.14 \\ \times\ 5.2 \\ \hline 1428 \\ +\ 35700 \\ \hline 37.128 \end{array}$$

2. Find the quotient.

33.8 ÷ 32.5 = (turn to whole #)

$$\begin{array}{r} 1.04 \\ 325\overline{)338.00} \\ -325\downarrow\ \ \ \\ \hline 130\ \ \ \\ -\ \ 0\ \ \ \downarrow \\ \hline 1300 \\ -1300 \\ \hline 0 \end{array}$$

34,992 ÷ 81 =

$$\begin{array}{r} 00432 \\ 81\overline{)34992} \\ -324\downarrow\ \ \ \\ \hline 259\ \ \ \\ -243\ \ \ \downarrow \\ \hline 162 \\ -162 \\ \hline 0 \end{array}$$

3

A class of 25 students shares a class set of 100 markers. On a day with 5 students absent, which statement is true?

A. For every 5 students, there is 1 marker.

B. For every 4 students, there is 1 marker.

C. For each student, there are 4 markers.

D. For each student, there are 5 markers.

4.

The area of a rectangular patio is $5\frac{5}{8}$ square yards, and its length is $1\frac{1}{2}$ yards. What is the patio's width, in yards?

A. $3\frac{3}{4}$

B. $4\frac{1}{8}$

C. $7\frac{1}{8}$

D. $8\frac{7}{16}$

$5\frac{5}{8} \div 1\frac{1}{2}$ ① turn to improper

$\frac{45}{8} \div \frac{3}{2}$ ② Multiply by reciprocal (KCF)

$\frac{45}{8} \cdot \frac{2}{3} = \frac{90}{24}$ ③ Multiply + Simplify

$3\frac{3}{4}$

5.

Which equations with exponential expressions are true?

Select **all** that apply.

A. $3^3 = 3 \cdot 3$

B. $5^2 = 5 \cdot 5$

C. $5^4 = 4 \cdot 4 \cdot 4 \cdot 4 \cdot 4$

D. $7 \cdot 7 \cdot 7 \cdot 7 \cdot 7 \cdot 7 = 6^7$

E. $7 \cdot 7 \cdot 7 \cdot 7 \cdot 7 \cdot 7 = 7^6$

F. $7 \cdot 7 \cdot 7 \cdot 7 \cdot 7 \cdot 7 = 7^7$

6.

Marshall took $36.75 to a fair. Each ticket into the fair costs x dollars. Marshall bought 3 tickets. Which expression represents the amount of money, in dollars, that Marshall had after he bought the tickets?

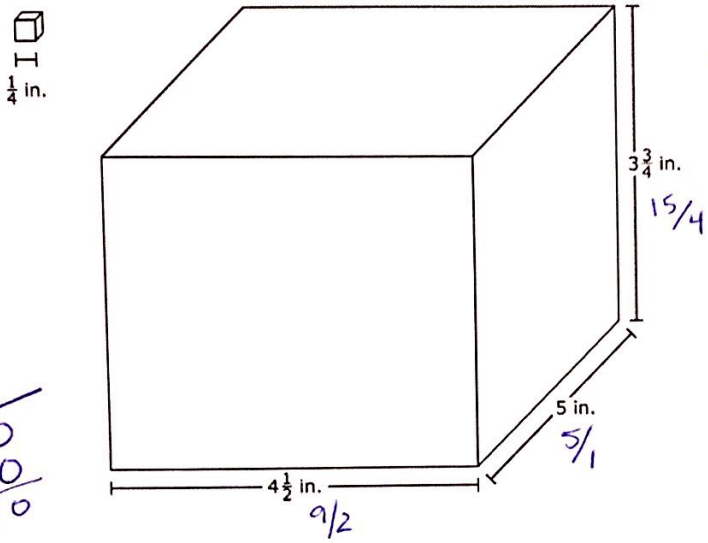
A. $36.75 - (3 + x)$

B. $36.75x - 3$

C. $36.75(3) - x$

D. $36.75 - 3x$

7. Small cubes with edge lengths of $\frac{1}{4}$ inch will be packed into the right rectangular prism shown.



How many small cubes are needed to completely fill the right rectangular prism?

Small cube $\frac{1}{4} \cdot \frac{1}{4} \cdot \frac{1}{4} = \frac{1}{64}$ in^3

large cube: $\frac{9}{2} \cdot \frac{5}{1} \cdot \frac{15}{4} = \frac{675}{8}$

Divide to fit in!

$\frac{675}{8} \div \frac{1}{64}$

$\frac{675}{8} \cdot \frac{64}{1} = \frac{43200}{8} = 5400$ cubes

simplify!!

675 × 64 = 43200

8. These five rational numbers are plotted on a horizontal number line.

$$-\frac{2}{3}, \frac{7}{8}, -\frac{4}{5}, \frac{7}{10}, -\frac{4}{3}$$

Which statement about the locations on the number line of the rational numbers is true?

A. $-\frac{2}{3}$ is farthest to the left, and $\frac{7}{8}$ is farthest to the right.

B. $-\frac{4}{3}$ is farthest to the left, and $\frac{7}{8}$ is farthest to the right.

C. $-\frac{2}{3}$ is farthest to the left, and $\frac{7}{10}$ is farthest to the right.

D. $-\frac{4}{3}$ is farthest to the left, and $\frac{7}{10}$ is farthest to the right.

9. Select each expression that is equivalent to $3(n + 6)$.

Select **all** that apply.

A. $3n + 6$

B. $3n + 18$

C. $2n + 2 + n + 4$

D. $2(n + 6) + (n + 6)$

E. $2(n + 6) + n$

10.

The median number of points scored by 9 players in a basketball game is 12. The range of the numbers of points scored by the same basketball players in the same game is 7.

Which statement is true based on the given information?

A. At least one player scored 12 points.

B. The greatest number of points scored is less than 19 points.

C. The mean number of points scored is greater than 12 points.

D. If the greatest number of points scored is 16, then the least number of points scored is 4.

11.

Thomas buys a case of bottled water. A case contains 36 bottles of water and costs $4.69. Thomas will sell each bottle of water for $0.75 at a school event.

How much profit, in dollars, will Thomas earn if he sells all the bottles of water?

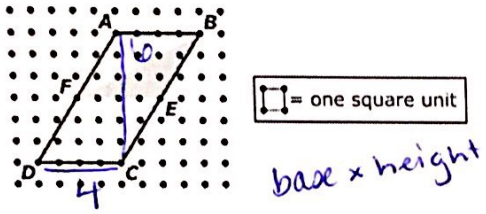
36 × 0.75 = 27.00

27.00 sells − 4.69 bought = 22.31 ← profit

CALCULATOR SECTION :)

12.

An advertising company is designing a new logo that consists of a shaded triangle inside a parallelogram.



base × height

Part A

What is the area, in square units, of parallelogram *ABCD*?

Enter your answer in the box.

$6 \cdot 4 = 24$ units^2

Part B

In the new logo, what fraction of the parallelogram is shaded?

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

B. $\frac{1}{6}$

C. $\frac{1}{4}$

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

13. A company makes yellow golf balls and white golf balls. The table shows the company's sales of yellow golf balls for the last 3 years.

Yellow Golf Balls

Year	Number of Yellow Golf Balls Sold
1	204,132
2	225,624
3	237,108

- The company expects sales of yellow golf balls to continue to increase in year 4.
- The company also expects the ratio of yellow golf ball sales to white golf ball sales in year 4 to be about 1 : 5.
- The average selling price of a box of 12 yellow or 12 white golf balls is $23.94.

Estimate the company's total sales, in dollars, of golf balls in year 4. Show all your work. Explain how you determined your estimate.

Sample Student Response:

I estimated the sales of yellow golf balls in year 4 to be about 250,000. Since the company expects sales to continue to increase and the table shows sales increased by about 21,000 in year 2 and by about 11,000 in year 3, I estimated an increase of about 15,000 in year 4. Adding 237,000 + 15,000, I get 252,000 or about 250,000 yellow golf balls sold in year 4. Next, I determined the number of white golf balls sold in year 4 using the given ratio. Since I estimated 250,000 yellow golf balls and the ratio of yellow to white is 1:5, I multiplied 2,500 × 5 get 1,250,000 white golf balls.

I added 250,000 + 1,250,000 to get an estimate of 1.5 million golf balls sold in year 4. Next, I determined the number of boxes sold in year 4 to be 125,000 since 1,500,000 ÷ 12 = 125,000. Finally, I came up with my estimate by multiplying the total number of boxes by $24 per box (rounded up from $23.94). So my estimate is $3 million for year 4 since 125,000 × 24 = 3,000,000.

14. What is the value of $a^2 + 3b + c - 2d$, when $a = 3$, $b = 8$, $c = 2$, and $d = 5$? PEMDAS

$3^2 + 3(8) \div 2 - 2(5)$

$9 + 3(8) \div 2 - 2(5)$

$9 + 24 \div 2 - 2(5)$

$9 + 12 - 2(5)$

$9 + 12 - 10$

$21 - 10$

11

15. **Chad drove 168 miles in 3 hours.**

Part A

How many miles per hour did Chad drive? $\frac{168\text{mi}}{3\text{hr}} = 56\text{ mph}$

Enter your answer in the box.

Part B

Chad will drive 672 more miles. He continues to drive at the same rate.

How many hours will it take Chad to drive the 672 miles? $\frac{672\text{mi}}{56\text{mph}} = 12\text{ miles}$

Enter your answer in the box.

Part C

Chad stopped and filled the car with 11 gallons of gas. He had driven 308 miles using the previous 11 gallons of gas.

How many miles per gallon did Chad's car get? $\frac{308\text{mi}}{11\text{gal}} = 28\text{ mpg}$

Enter your answer in the box.

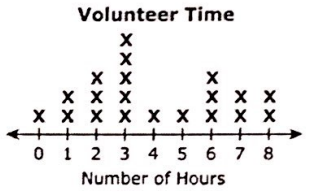
Part D

Chad's car continues to get the same number of miles per gallon.

How many gallons of gas will Chad's car use to travel 672 miles?

$\frac{672\text{mi}}{28\text{mpg}} = 24\text{ gallons}$

16. Janet surveyed a class of students. She recorded the number of hours that each student volunteered. This line plot shows the results of the survey.



Part A

How many students did Janet survey? 20

Enter your answer in the box.

Part B

What is the mean number of hours volunteered by the students in the survey?

$0+1+1+2+2+2+3+3+3+3+3+4+5+6+6+6$
$7+7+8+8$

20

$= 4$

17. Sam's two new aquariums each hold exactly 200 gallons of water. One aquarium will hold small fish and the other will hold large fish. Now he needs new fish for his aquariums.

- He will buy 5 small fish for every 10 gallons of water in the aquarium.
- He will buy 8 large fish for every 40 gallons of water in the aquarium.

What is the total number of fish Sam will have? What will be the ratio of Sam's small fish to large fish? Show or explain the steps you used to solve this problem.

5 small fish for every 10 gallons means 1 small fish for every 2 gallons. There are 200 gallons in the tank, so there will be 100 small fish.
8 large fish for every 40 gallons means 1 large fish for every 5 gallons. There are 200 gallons in the tank, so there will be 40 large fish.

100 + 40 = 140 total fish

The ratio of small fish to large fish will be 100 to 40 or 5 to 2.

Note: Any equivalent ratio is acceptable. Also, students may show or explain their work using other valid strategies, such as making a table of equivalent ratios.

possible answer.