## Dittamo \& Lewis 6th Grade CRCT 2013 Review

Which list shows the numbers in ascending What are two ways to put these numbers in order? order?
A.) $|-3.5|,-3.25,3.75$
B.) $-3.25,-3.5,|3.75|$
C.) $-3.5,|-3.75|, 3.25$
D.) |-3.25|, 3.5, 3.75
"Neither you nor the world knows what you can do until you have tried"


Two Airport shuttles leave the main station at the same time. Shuttle A returns to the station every 8 minutes. Shuttle B returns to the station every 12 minutes. In how many minutes will shuttles $A$ \& B leave the4 station together for the second time?
A.) 10 minutes.
B.) 96 minutes
C.) 24 minutes.
D.) 48 minutes.

What is the key word in the problem?
Show two ways to find when the two shuttles will arrive and leave from the station.

What is the answer?
$\qquad$
"The road to success is dotted with many tempting parking spaces. Drive to success!"

Mr. Lukens directs two choruses. One chorus has 28 students. The other chorus has 36 students. For rehearsals, he wants to divide each chorus into the largest possible equal groups, with no students left over. How many groups can he make with no students leftover as well as how many students will be in each group?
A.) 2,16
B.) 4,16
C.) 9,7
D.) 12,9

What is the key word in the problem?

Answer:

Why is A NOT the Answer?

Which of the following is equivalent to $33+77 ?$
A.) $3(11+7)$
B.) $(3+11) \times(7+11)$
C.) $7(3+11)$
D.) $11(3+7)$

Which property is used in expressing the correct answer?

Answer:
Why is C NOT the answer?

Mrs. Lewis flew from Atlanta to Big Lake, Texas, $\quad$ What is the key word in the problem? which is a distance of 1,128 miles. If it took the plane 4 hours to fly from Atlanta to Big Lake, what was the plane's average speed per hour?
A.) 282 miles per hour
B.) 268 miles per hour
C.) 244 miles per hour
D.) 376 miles per hour

Answer:
"We cannot become what we need to be by remaining what we are"


A.) Point A
B.) Point B
C.) Point C
D.) Point D

What is the best way to compare fractions and decimals?

Work and answer:
"Doubt whom you will, but never doubt yourself"

| Which statement best describes $\|-72\|$ ? | What is the definition of absolute value? |
| :--- | :--- |
| A.) The distance from -72 to 72 on a number  <br> line,  <br> B.) The distance from -7 to -2 on a number line. Answer: <br> C.) The distance from -7 to 2 on a number line. Demonstrate the solution: <br> D.) The distance from -72 to 0 on a number line.  l |  |

The table shows the distances from school that four friends live from school.

## Distance from School

| Student | Distance (in miles) |
| :---: | :---: |
| Teri | $4 \frac{3}{4}$ |
| Josie | $4 \frac{7}{8}$ |
| Katie | $4 \frac{9}{10}$ |
| Ramona | $4 \frac{4}{5}$ |

A.) Katie, Ramona, Teri, Josie
B.) Katie, Josie, Ramona, Teri
C.) Teri, Ramona, Josie, Katie
D.) Ramona, Teri, Katie, Josie

Which lists the students in order from the greatest distance from school to the least distance?

How will you get your answer in compatible numbers?

Work and answer:

Which lists the decimals from greatest to least?
A.) $3.917,39.17,39.175,39.7$
B.) $39.175,39.17,3.917,39.7$
C.) $3.917,39.175,39.17,39.7$
D.) $39.730 .185,30.17,3.917$

How will you get your decimals in order?

Show your work and answer:
"School is a building that has four walls...with tomorrow inside"

| Mrs. Lewis drove 129.5 miles on the first day of <br> her vacation. The next day, she drove 43.25 <br> miles, and the third day she drove 36.5 miles. <br> How many more miles did she drive on the first <br> day than she drove on the second and third <br> days combined? | What are some of the key words in the <br>  <br> problem? <br> A.) 211.25 miles <br> B.) 81.75 miles <br> C.) 49.75 miles <br> D.) 43.00 miles |
| :--- | :--- |

The cost of Cody's large storage unit is \$ 285.47 per month. If Cody pays in advance for 2 years of storage, how much will he pay in all?
A.) $\$ 1,712.82$
B.) \$ 6,851.28
C.) $\$ 6,951.28$
D.) \$7,851.28

What are some of the key words in the problem?

What is the question asking you to do?

Work and answer:

Mr. Mustache is making a recipe that calls for $\frac{3}{4}$ teaspoon of cinnamon. His only measuring spoon holds $\frac{1}{8}$ teaspoon. How many times will he need to fill his measuring spoon to get enough cinnamon for his recipe?
A.) $\frac{3}{32}$
B.) 3
C.) 6
D.) 12

How would you calculate the answer?

Answer:

Why is A NOT the answer?
$\qquad$
"The greatest barrier to success is the fear of failure. You will succeed!"

| Paul practices his piano for a total of $9 \frac{3}{4}$ hours | How would you calculate the answer? |
| :--- | :--- | many times does he practice piano each week?

A.) 13
B.) 9
C.) 6
D.) 3

Where is point $(2,-3)$ located?


What is the first step in locating a point on the coordinate plane?

Answer:
A.) Point D
B.) Point K
C.) Point I
D.) Point F

| If Triangle $A B C$ is reflected over the X Axis, what | What is the rule for changing a coordinates |
| :--- | :--- |
| would be its new location? |  |
| A.) 2,8$),(5,3),(9,5)$ |  |
| location? Over the ___, Opposite the $(-8,2),(-3,5),(5,-9)$ |  |
| C.) $-2,8),(5,-3),(-9,5)$ |  |
| D.) $(2,-8),(-5,3),(9,-5)$ | Work and Answer: |

"Our greatest weakness lies in giving up. The most certain way to succeed is always to try just one more time"


If point $T$ is reflected over the $Y$ Axis, what will be the coordinates of the new location?
A.) $(2,3)$
B.) $(3,2)$
C.) $(-2,-3)$
D.) $(-2,3)$


What is the rule for changing a coordinates location?

Over the $\qquad$ , Opposite the $\qquad$

Work and Answer:
"Never give in. Never. Never. Never. Never."
Which shows how you can check $\frac{2}{3} \div \frac{7}{8}=\frac{16}{21}$ ?
А.) $\frac{7}{8} \cdot \frac{16}{21}=\frac{2}{3}$ B.) $\frac{16}{21} \div \frac{7}{8}=\frac{2}{3}$
C.) $\frac{16}{21} \div \frac{2}{3}=\frac{7}{8}$
D.) $\frac{8}{7} \cdot \frac{16}{21}=\frac{2}{3}$

Jerome burned 75 calories in 15 minutes on a stationary bicycle. How many calories will he burn in 25 minutes?
A.) 5
B.) 85
C.) 125
D.) 140

What are the steps in dividing fractions?

What is your final step?

Work and Answer:

| A hardware store charges \$ 18 for a six pack of | What does unit rate mean? |
| :--- | :--- |
| energy efficient light bulbs. What is the unit rate |  |
| for the cost of one light bulb? |  |
|  |  |
|  | Work and Answer: |
| A.) $\$ 1.48$ |  |
| B.) $\$ 6.00$ |  |
| C.) $\$ 3.00$ |  |
| D.) $\$ 0.30$ |  |

After 45 seconds, Javier's bathtub filled with 3 inches of water. How many seconds will it take to fill the bathtub with 20 inches of water?
A.) 45 seconds
B.) 150 seconds
C.) 300 seconds
D.) 900 seconds


What is your first step in setting up a proportion?

Why is D NOT the answer?

Work and Answer:
"Apply yourself. Get all the education you can, but then do something with it. Don't just stand there, make it happen!"

The local movie theater collected a total of \$ 8, 250 last night, of which 45\% came from sales at the concession stand. How much money did the theater collect at the concession stand?
A.) \$ 3,712.50
B.) \$ 8, 205.00
C.) $\$ 4,637.50$
D.) $\$ 4,63.75$

What are the key words in this problem?
Besides a proportion, how can you solve this problem?

Work and Answer:

What is the ratio in simplest form of the number of votes that Derek received to the total number of votes?

| Candidate | Number of Votes |
| :--- | :---: |
| Brooke | 18 |
| Derek | 36 |
| Aidan | 54 |
| Julianne | 27 |
| Leonard | 45 |

A.) $\frac{2}{3}$
B.) $\frac{18}{90}$
C.) $\frac{3}{7}$
D.) $\frac{1}{5}$

What is another word for a ratio?

Why is C NOT the answer?

Answer:
"Forget past mistakes. Forget failures. Forget everything except what you're going to do now and do it."

| Hudson bought several cans of tennis balls. |
| :--- |
| Each can contained green and yellow tennis |
| balls. He purchase 10 green and 5 yellow tennis |
| balls in all. If each can has 2 green tennis balls |
| in it, how many yellow tennis balls are in each |
| can? |
|  |
| A.) 4 |
| B.) 1 |
| C.) 5 |
| D.) 3 |

What are the key words in this problem?

How can you solve this by looking at a single ratio?

Work and Answer:

Mrs. Lewis' car can travel 368 miles on one tank of gas. Her gas tanks holds 16 gallons. What is the unit rate for miles per gallon?

A.) 22 miles per gallon
B.) 23 miles per gallon
C.) 26 miles per gallon
D.) 28 miles per gallon

What operation will you need to perform to solve the problem?

How can you solve the problem by looking at the values?

Work and Answer:
"Try not. Do or do not, there is no try."

Cecilia created 2.5 liters of a chemical mixture for an experiment. Saline solution counted for $12.5 \%$ of the mixture. How many liters of saline solution were in the mixture?

A.) 0.3125 liters
B.) 2.8175 liters
C.) 3.125 liters
D.) 31.25 liters

What do you do before you multiply a percentage?

Why is C NOT the answer?

Work and Answer: solve this problem?

Work and Answer:

Mr. Dittamo replaced 75\% of the wooden boards in his fence. If he replaced 63 boards, how many boards does his fence have in total?

A.) 147 boards
B.) 84 boards
C.) 138 boards
D.) 21 boards

Why is using a proportion a good method to solve this problem?

Work and Answer:

Striving for success without hard work is like trying to harvest where you haven't planted."

There are 25 students performing in the concert. Of the students, 11 were boys, what percent of the students are boys?

A.) $56 \%$
B.) $22 \%$
C.) $33 \%$
D.) $44 \%$

Explain two ways to solve this problem.
$\qquad$

What are the key words in this problem?
Work and Answer:

Last year, a state university received 3,560 applications from boys. Of those applications, $35 \%$ were from boys who lived in other states. How many applications were from in-state boys?
A.) 1,246
B.) 2,314
C.) 3,560
D.) 2,468

What are the key words in this problems?

What should you be setting up?

Work and Answer:

Write a numerical or algebraic expression for
Answer: each phrase:

Three less than the product of a number and two Forty divided by the sum of one and nine Eleven more than six divided by a number

What are the key words in this problem?

Answer:
A.) $4 n+4 n$
B.) $n+4 n$
C.) $n+4$
D.) $4 n$
"The journey of a thousand miles starts with a single step."

A waiter determines his salary for a week using the formula $S=3.75 h+t$, where " $S$ " is his salary, " $h$ " is the number of hours he works, and "T" are his total tips. How much does he make if he works 30 hours in a week and makes a total of \$ 538.75 in tips?

A.) $\$ 112.50$
B.) \$ 651.25
C.) \$ 538.75

D,) \$ 568.75

What are the key words in this problem?

Why is A NOT the answer?

Answer:
A.) $3 k+4+k+8$
B.) $3(k+3)$
C.) $4(k+3)$
D.) $2(2 \mathrm{k}+5)+2$

Which step should be taken to isolate the variable in the following equation? $7 \mathrm{~d}=49$

What are the steps in solving a one step equation?
A.) Add 7 to both sides of the equation.
B.) Subtract 7 from both sides of the equation.
C.) Multiply both sides of the equation by 7 .
D.) Divide both sides of the equation by 7 .
"Apply yourself. Get all the education you can, but then do something with it. Don't just stand there, make it happen!"

| After Kwan spent \$5 of the money he earned |  |
| :--- | :--- |
| mowing lawns, he had \$15 left. Let "m" equal the | What is the most important fact about an |
| amount Kwan earned mowing lawns. Which shows |  |
| the equation that represents the situation and the |  |
| amount Kwan earned? | equation? Hint: Both sides of an equation must <br> be |
| A.) $m-5=15 ; \$ 20$ | Work and Answer: |
| B.) $m+5=15 ; \$ 20$ |  |
| C.) $5 m=15 ; \$ 3$ |  |
| D.) $\frac{m}{5}=15 ; \$ 75$ |  |

Which graph shows the solution for this inequality: $k \geq 3.2$ ?

B.)

C.)

D.)


A red and blue block are on a scale. The red block weighs 9 ounces. The total weight of both blocks is at most 16 ounces. Which inequality best represents " $b$ ", the possible weight of the blue block in ounces?
A.) $\mathrm{b} \geq 7$
B.) $\mathrm{b} \leq 7$
C.) $b \geq 25$
D.) $\mathrm{b} \leq 25$

What does the closed or open circle represent when graphing an inequality?

Answer:

Draw a picture to represent the situation.

Answer:
"Success is the sum of small efforts, repeated day in and day out."

Which graph on the solution for $\mathrm{n} \leq-9.2$ ?
A.) $-11 \quad-10 \quad-9 \quad-8 \quad-7$
B.) $-13 \quad-12 \quad-11 \quad-10$
C.)

D.) 5


What does the closed or open circle represent when graphing an inequality?

Answer

Five friends had lunch together. Their total bill was "x" dollars. They shared the cost equally and each friend paid less than \$ 10. Which inequality shows the possible solutions for " x ", the total amount of the bill?

A.) $x>50$
B.) $x<50$
C.) $x \geq 50$
D.) $x \leq 50$

A flower bed in the shape of a right triangle has legs that measure 16 feet and 9 feet. What is the area of the flower bed?
A.) $12.5 \mathrm{ft}^{2}$
B.) $25 \mathrm{ft}^{2}$
C.) $72 \mathrm{ft}^{2}$
D.) $144 \mathrm{ft}^{2}$

Draw a picture to represent the situation.

Answer:

What is the formula for the area of a triangle?

Work and Answer:
"I'm not telling you it is going to be easy - l'm telling you it's going to be worth it"


Mrs. Lewis' Rose garden is in the shape of a trapezoid with a height of 35 feet. The bases of the garden measure 50 feet and 32 feet. What is the area of her garden?
A.) $58.5 \mathrm{ft}^{2}$
B.) $1,360 \mathrm{ft}^{2}$
C.) $1,435 \mathrm{ft}^{2}$
D.) $2,870 \mathrm{ft}^{2}$

What is the formula for the area of a trapezoid?

What is the first step in solving for the area of a composite shape?

Work and Answer:

If you thought of this shape as a composite shape, what could you do?

Work and Answer:
If you thought of this shape as a composite
shape, what could you do?
$\qquad$ Work and Answer:
D.) $92.5 \mathrm{~cm}^{2}$

Find the area of the shaded region:

A.) $74.5 \mathrm{~cm}^{2}$
B.) $147.5 \mathrm{~cm}^{2}$
C.) $120 \mathrm{~cm}^{2}$
" A lot of us would like to move mountains, but few of us are willing to practice on small hills."
When Tyson opens and lays a Rice Krispies box out flat, he sees that the top and the bottom of the box both measure 15 inches by 9 inches, the sides of the box both measure 15 inches by 3 inches, and the front and back of the box both measure 9 inches by 3 inches. What is the surface area of Tyson's box?

A.) $414 \mathrm{in}^{2}$
B.) $144 \mathrm{in}^{2}$
C.) $207 \mathrm{in}^{2}$
D.) $360 \mathrm{in}^{2}$

What are two methods for finding the surface area of a prism?
$\qquad$
$\qquad$

Work and Answer:

A driveway is 25 feet long, 9 feet wide, and 4 inches deep. How many cubic feet of concrete will be required for the driveway? Round your answer to the nearest cubic foot, if necessary.
A.) $225 \mathrm{ft}^{3}$
B.) $100 \mathrm{ft}^{3}$
C.) $75 \mathrm{ft}^{3}$
D.) $900 \mathrm{ft}^{3}$

What are the three basic measurements you need to find the volume of a rectangular prism?

Work and Answer:

## "Recipe for success: Study while others are sleeping; work while others are loafing; prepare while others are playing; and dream while others are wishing."

Plot the following points on the coordinate plane then calculate the area of the shape: $A(3,4), B(7,9),(7,4)$

A.) $5 \mathrm{~cm}^{2}$
B.) $20 \mathrm{~cm}^{2}$
C.) $10 \mathrm{~cm}^{2}$
D.) $15 \mathrm{~cm}^{2}$

What two things should you do after you plot the points?

Why is B NOT the answer?

Work and Answer:

Paul's bedroom is 14 feet long and 11 feet wide. Isa's bedroom is square, with each side measuring 12 feet. Which statement is true?
A). Isa's bedroom is $10 \mathrm{ft}^{2}$ larger than Paul's bedroom.
B.) Paul's bedroom is $2 \mathrm{ft}^{2}$ larger than Isa's bedroom.
C.) Isa's bedroom is $2 \mathrm{ft}^{2}$ larger than Paul's bedroom.
D.) Paul's bedroom is $10 \mathrm{ft}^{2}$ larger than Isa's bedroom.

Draw pictures of Paul's and Isa's bedrooms.

What is your next step?

A store owner. in order to buy better products for her customers, wants to find the average age of her customers. Their ages are: 16, 49, $19,15,15$, and 18. Find the mean absolute deviation of her scores.
A.) 8.94
B.) 19
C.) 34
D.) 9.44

What does the mean absolute deviation show?
$\qquad$
What are the three steps in finding the MAD?

Why is B NOT the answer?
Answer:
"Though no one can go back and make a brand new start, anyone can start from now and make a brand new ending."

Kaleb read seven books over his Spring Break. The number of pages in the books are shown in the following list:

212, 340, 288, 255, 340, 313, 289
What is the mean number of pages of her books?

A.) 288 pages
B.) 289 pages
C.) 291 pages
D.) 340 pages

What are the two steps in finding the mean of a group of data?

Work and Answer:

A fishing boat caught the following weights of fish in pounds, on 7 fishing trips: $90,53,50,59$, $63,50,97$. What was the mean, median, and mode from these 7 trips?

A.) mean: 66, mode: 50: median: 50
B.) mean: 66, mode: 50: median: 59
C.) mean: 77 , mode: 50 , median: 59
D.) mean: 77, mode: 50 , median: 50

Why are the mean, median, and mode important in looking at data?

Why is D NOT the answer?

Work and Answer:
"Strength of mind is exercise not rest."

| A teacher's class earned the following scores on their last test. What is the mean? | What are the two steps in finding the mean of a group of data? |
| :---: | :---: |
|  | Work and Answer: |
| A.) 85.5 <br> B.) 82.2 <br> C.) 85 <br> D.) 90 |  |

Here are the average times, in seconds, from the "Dittamo How Fast Can You Eat a Cheeseburger Contest." They were as follows: 77, 79, 80, 86, 87, 87, 94, 99. What was the interquartile range?

A.) 11
B.) 10
C.) 86.5
D.) 22

The interquartile range shows the spread of the middle $50 \%$ of the data. Why is this important?

Why is D NOT the answer?

Answer:

This stem and leaf plot represents the amount of money Mateo earned the past 18 weeks working at his Father's Shop. What is the median?


Key 12 | $0=120$
A.) 134.5
B.) 137
C.) 136.5
D.) 145

When finding the median, what do you do when you have an even number of data in your group?

Work and Answer:

For which set of data would the median be the best to describe the data?
A.) The selling price of a gallon of gas.
B.) The ages of all the people in your family including your grandparents, cousins, aunts, and uncles.
C.) The sizes of suits sold in a men's store.
D.) The sandwiches sold for lunch in one day.

When is it important to know the middle value in a set of data?

Answer:

## "Success is the sum of small efforts, repeated day in and day out."

The number of text messages that Isa sent on each of the past seven days are as follows: 24, 18, 11, 15, 20, 11, 28. What was the First Quartile, Second Quartile, and Median of this set of data?
A.) 11,18 , and 24
B.) 11,19 , and 24
C.) 11,18 , and 23
D.) 11,19 , and

How are the First Quartile, Second Quartile, and Median the same?

Answer:

