PROBLEM SOLVING ANSWERS



<u>___</u> 266

%

Peter went bowling and got the following points. What will his his final score be if the pattern continues?

1	2	3	4	5	6	7	8	9	10	Total
5	10	15	20	25	25	20	15	10	5	150



Problem 1

Peter's final score was _____

2

Between them, Aliyah and Teren scored goals in each of the games they played. How many goals did they get in the season if the pattern continued to the final game?

1	2	3	4	5	6	7	8	9	10	Total
3	2	1	1	2	3	3	2	1	1	19



Problem 2

Between them, Aliyah and Teren got _____ goals in the season.

2

Alina had a job babysitting. Her pay schedule for each day is below. How much would she make in total if the pattern continued?

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Total
\$9	\$18	\$27	\$36	\$45	\$54	\$63	\$72	\$81	\$90	\$495



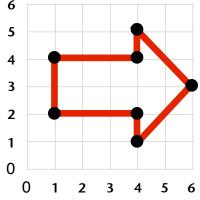
Problem 3

Alina would make a total of \$_____

Elyse plotted the following points and connected the dots in order. What shape did she make?

- a. (1, 4)
- e. (4, 1)
- b. (4, 4)
- f. (4, 2)
- c. (4, 5) d. (6, 3)
- g. (1, 2) h. (1, 4)





Problem 4

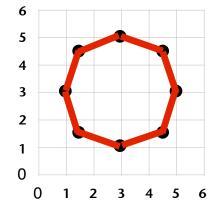
9

Elyse made a _____ shape.

Kenadie plotted the following points and connected the dots in order. What shape did she make?

- a. (3, 5)
- f. (1.5, 1.5)
- b. (4.5, 4.5)
- g. (1, 3)
- c. (5, 3) d. (4.5, 1.5)
- h. (1.5, 4.5) i. (3, 5)
- e. (3, 1





Problem 5

10

Kenadie made a _____stop ____ sign.

If Abby could figure out the rule that created the following input and output numbers, she would win a trip around the world for the grade sixes. What answer should she give?

INPUT	RULE	OUTPUT
6		4
7		4
8	/	4
9		4



Problem 6

Abby should say the rule is ____

(0+4

The pet store has 8 rabbits for sale. Each morning, Charity, the owner, feeds the rabbits a total of 2 cups of pellets. If each rabbit receives the same amount of pellets, how much does each rabbit receive?



 $2 \div 8 = 0.25$ or 1/4

Each rabbit receives _____ cup of pellets.

Problem 7

2

Each rabbit at Charity's pet store is sold for \$20.00. How much money will Charity make if she sells 7 of them?



20 x 7 = 140

Problem 8

Charity will make _____ dollars.

On Monday, there were 99 fish in the fish tank. On Tuesday, 7 fish were sold. On Wednesday, 3 fish were sold. On Thursday, 5 fish were added to the tank. On Friday, 3 fish were sold. How many fish were in the tank at the end of the week?



There were _

Monday: 99 Tuesday: 99

y: 99 - **7** = 92

Wednesday: 92 - 3 = 89

Thursday: 89 + 5 = 94 Friday: 93 - 3 = 91

91 ___ fish in the tank.

Problem 9

Charity's employee, Isaac, counts the fish in each of the fish tanks and finds the following totals: 75, 119, 92, 32, and 84. What is the total number of fish?



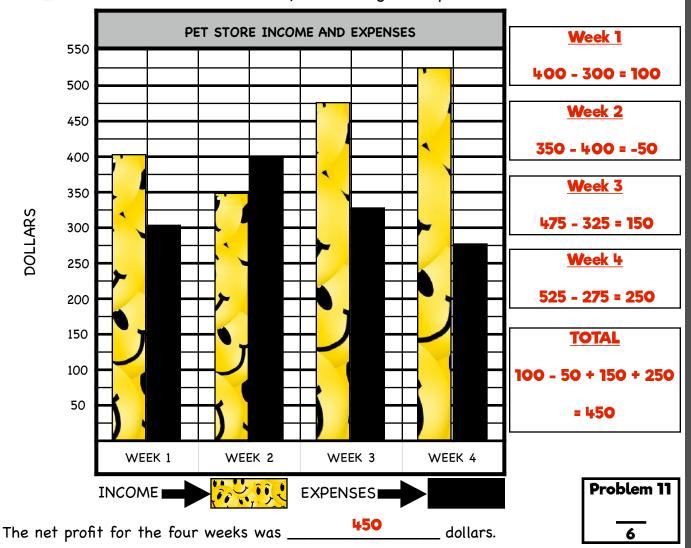
Problem 10

2

The total number of fish in the tanks is _____

The graph below shows the income and expenses for four weeks at the pet store. What is the net profit for the four weeks?

Fint: Net Profit is calculated by subtracting the expenses from the income.



The tickets for the Jets sold for \$85.00. Cole went to the event with four of his friends. How much money did it cost the group to go?



$$5 \times 85 = 425$$

It cost the group _____ dollars to go.

Problem 12

4

There were three Jet home games. The first game had 14 953 people in attendance. The second game had 13 989 people in attendance. The third game had 15 005 people in attendance. What was the average number of people at the three games?

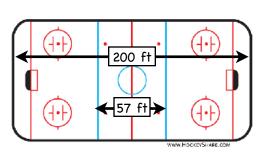


Problem 13

The average attendance at the three games was _______ people.

Problem is

The length of a rink is 200 feet. If the distance between the blue lines is 57 feet, how far is it from the end boards to the blue line?



143 ÷ 2 = 71.5

3

Problem 14

The distance from the end boards to the blue line is $\underline{71.5}$ ft.

During intermission, Cole bought a drink for \$2.49. If he paid with a five dollar bill, how much money did he get back?



Problem 15

2

Solomon got \$_____ back.

Clues:

The seats were numbered consecutively, starting with 10 and ending with seat 14.

Cole and Kevin sat in odd-numbered seats.

Sam's seat number is three more than Cole's seat number.

Miles' seat number is two less than Anders' seat number.

WHO SAT WHERE?							
	10	11	12	13	14		
Cole	X	√	X	X	X		
Kevin	X	X	X	✓	X		
Sam	X	X	X	Х	✓		
Miles	√	X	X	X	X		
Anders	X	X	√	X	X		

Cole sat in seat number ______.

Kevin sat in seat number _____.

Sam sat in seat number _____.

Miles sat in seat number _____.

Anders sat in seat number ______

Problem 16

There were 18 students on the school bus before Rhianna's stop. Ten students and Rhianna got on the bus at her stop. The bus went to the Collegiate and 7 students got off and 4 more got on. Then the bus went to the Elementary where all the remaining students got off. How many students got off at the Elementary?



Students On Bus: 18

Bus Stop: 18 + 10 + 1 = 29

Collegiate: 29 - 7 + 4 = 26

Elementary: 26

Problem 17

26

_ students got off at the elementary.

_

Sharise left her house at 7:00 am. It took her 5 minutes 45 seconds to walk to the bus stop. She waited 3 3/4 minutes for the bus and then rode the bus 20 1/2 minutes to her school. It took her 15 seconds to get from the bus to the front doors. At what time did she walk into the school?



House: 7:00

Walk: 7:00 + 5.45 = 7:05.45 Wait: 7:05.45 + 3.45 = 7:09.30 Ride: 7:09.30 + 20.30 = 7:30

Walk: 7:30 + 0.15 = 7:30.15

Problem 18

5

Shares walked into the school at ______ am

An annual pass for the city bus costs \$26. Rachel and her three friends each bought an annual pass. How much money did they pay in all for the passes?



Problem 19

They paid _____ dollars in all for the passes.



There are 200 buses in the city's bus fleet. 1/10 of the buses are reserved for special trips. Of the remaining ones, half start their routes at 5:30 am and the other half start their routes at 6:00 am. How many buses start at 5:30 am?



 $180 \div 2 = 90$

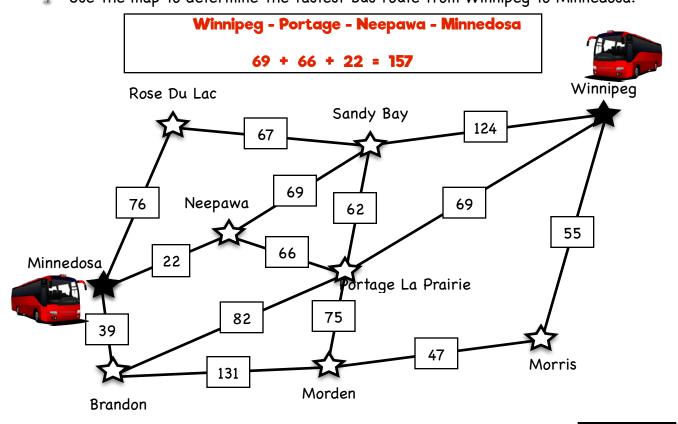
Problem 20

3

buses start their routes at 5:30 am.

The map below shows several cities that buses pass through when they travel from Winnipeg to Brandon. The numbers represent the number of minutes it takes to travel each road.

Use the map to determine the fastest bus route from Winnipeg to Minnedosa.



The fastest route from Winnipeg to Minnedosa takes _____ minutes

3

Problem 21

Casey, Christina, and Cayla worked at the Cut and Style Shop. They put all the tips they earned into a pot and equally divided the money at the end of the month. The money in the pot totaled \$1347. How much did each person receive?



$$1347 \div 3 = 449$$

Each one received _____ dollars.

Problem 22

2

Each chair in the Cut and Style Shop can hold a maximum weight of 450 pounds. A large gentleman walked into the shop. He told the stylist that he weighed 25 pounds less than a quarter of a ton. By how many pounds was the gentleman over or under the maximum weight? (Hint: One ton = 2 000 pounds)



$$2000 \times 1/4 = 2000 \div 4 = 500$$

Man's Weight

Over Limit

500 - 25 = 475

475 - 450 = 25

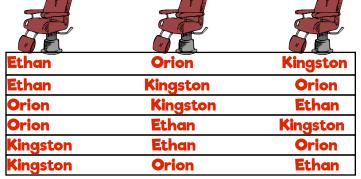
Problem 23

The gentleman was

pounds over

pounds(over) under the maximum weight.

When Ethan, Orion, and Kingston walked into the Cut and Style Shop, there were three empty chairs. How many possible ways could they be seated in the three chairs?



They could be seated in _____ different combinations.

Problem 24



Madison got her hair cut and styled. She gave a 20% tip to her stylist. If the haircut cost \$60, how much was her tip?



Tip = 12

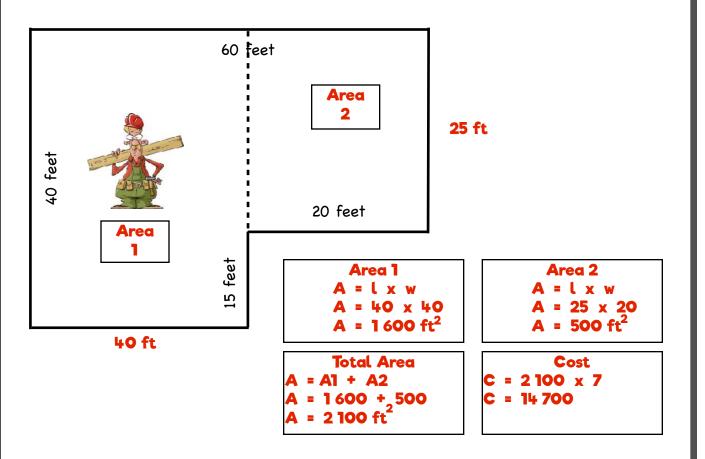
The tip was _____6 dollars.

Problem 25

3

Problem 26

The Cut and Style Shop wants to replace the hardwood flooring. If the cost of the flooring is \$7 per square foot, how much will the flooring cost to cover the shop floor?



It would cost _____ dollars to pay for the hardwood floor.



There are 30 tables set up for the annual craft sale. Each table is 2 meters long. Norah and Abigail plan to cover each table with a paper tablecloth that extends an extra 10 centimetres over each end so they can tape it underneath. What is the total length of paper needed to cover all the tables?



Table Length

= 30 x 2m

Total Length L = 60 + 6 $L = 66 \, \text{m}$

Additional Length

 $= 30 \times 20 \text{ cm}$

= 600 cm

= 6 m

Problem 27

The total length of paper needed is ____ meters.

Jordan and Casey wanted to make cookies for the craft sale. The recipe for a dozen cookies calls for 3/4 cup of milk. The girls want to triple the recipe. How much milk will they need in all?



Problem 28

They will need _

2 1/4 cups of milk.

Ben and Sam had 1 120 raffle tickets made up for the craft sale. They wanted to sell them at four separate locations. If the tickets were spread out evenly, how many would be sold at each location?



$$1120 \div 4 = 280$$

Problem 29

tickets would be sold at each location.

The boys sold 530 tickets at the first location, 630 at the second, 421 at the third, and 391 at the fourth. What was the average number of tickets sold?



The average number of tickets sold at each location was _____

Problem 30

4

At the craft sale, there were four stations set up where people donated money toward world water relief. Use the clues below to determine how much money was donated at each of the four stations.

Use the chart below to help you.

Clues:

- Station 3 collected the most with \$343.
- Fig. The range of money collected was \$200.
- Station 4 collected the least amount of money.
- Station 2 collected \$84 less than station 3.
- Facility Station 1 collected \$98 more than station 4



Which Station Collected What?								
The Waler Project	343	259	241	143				
Station 1	X	X	√	X				
Station 2	X	✓	X	X				
Station 3	√	X	X	X				
Station 4	X	X	X	✓				

Station 1 collected _____ dollars.

Station 2 collected _____ dollars.

Station 3 collected _____ dollars.

Station 4 collected ______ dollars.

Station 2 343 - 84 = 259

Station 1 143 + 95 = 241 Problem 31



Caedmon doesn't know it yet, but he will become the NFL's most prolific quarterback. Caedmon will play 19 seasons and record an average of 4 876 passing yards per year. Use rounded numbers to find out approximately how many yards Caleb will pass for in his career.



20 x 5 000 = 100 000

19 x 4 876 = 92 644

Caedmon will pass for approximately ______ yards in his career. ______

At the moment, Brett Farve holds the record for career passing yards at 71 838. Caedmon will pass for 92 644 yards. How many more yards will Caleb pass for?



92 644 - 71 838 = 20 806

Problem 33

Caedmon will pass for ______ more yards than Brett Farve.

__

Problem 32

Liam also doesn't know it yet, but he will set the NFL record for most yards receiving in his career. He will play 17 seasons and accumulate 28 901 yards. Use rounded numbers to find out approximately how many receiving yards he gained each season.



30 000 ÷ 20 = 1 500

Liam will average approximately _____ 1500 ___ yards receiving each year.

Problem 34



At the moment, Jerry Rice holds the record for career receiving yards at 22 895. If Liam accumulates 28 901 yards, how many more yards will Liam have, compared to Jerry Rice. Calculate the exact answer.



28 901 - 22 895 = 6 006

Problem 35

Liam will accumulate ____

6006

___ more yards than Jerry Rice.

2

Caedmon played for 19 seasons and earned an average of \$12 200 000 dollars per season. Liam played for 17 seasons and earned an average of \$9 700 000 dollars per season. Use rounded numbers to calculate approximately how much money the guys made together during their careers.

Both guys donated 10% of their earnings to their local churches. Approximately how much money did they give away? (Hint: $10\% = \div 10$)

Caleb

20 x 12 000 000 = 240 000 000

Solomon

20 x 10 000 000 = 200 000 000

Caleb & Solomon

240 000 000 + 200 000 000 = 440 000 000

Donation

440 000 000 ÷ 10 = 44 000 000



Caedmon and Liam made approximately ______ dollars in their careers.



The guys gave approximately 44 000 000 dollars to their local churches.

12

Problem 36



One day, Drake discovered the world's biggest cookie jar. When he showed Alex, they decided to bake cookies to fill it. Each pan they used held 24 cookies. If Drake baked 737 pans and Alex baked 916 pans, how many cookies did they bake altogether. Round off the numbers to come up with an approximate total.



Drake

700 x **20** = **14 000**

Alex

900 x 20 = 18 000

Total

14 000 + 18 000 = 32 000

Problem 37

10

•

The girls baked approximately _____ cookies.

The other 17 boys in grade six discovered the cookie jar that was now filled with cookies. They couldn't help themselves and ate 588 cookies each. How many cookies were left over? Round off the numbers to come up with an approximate total.



20 x 600 = 12 000

32 000 - 12 000 = 20 000

Problem 38

6

There were approximately _____ cookies left over.

With the cookies they had left over, Drake and Alex decided to hold a cookie sale. They sold each cookie for 30¢. How much money did they make if they sold all the remaining cookies? This will be an approximate answer.



20 000 x 0.30 = 6 000.00

Problem 39

The boys made approximately _____ dollars.



Dom and Elliott bought some spoons from Dollarama. There were 36 spoons in each package and they purchased 8 packages. How many spoons were there altogether?



 $36 \times 8 = 288$

Problem 40

2

There were ______ spoons altogether.

The spoons were used to make hot chocolate. To make each cup, it required 2 spoons of chocolate mix. Each spoon of chocolate mix contained an average of 5 765 granules. If Dom and Elliott made 46 cups from the entire container of chocolate mix, how many granules were there in the container?

Use rounded numbers to come up with an approximate total.



Spoons: 2 per cup

Cups: 46 > 50

Granules per spoon: 5 765 > 6 000

2 x 50 x 6 000 = 600 000

Problem 41

The were approximately ______ granules in the container.

Yesterday, there were 60 000 Google searches every second. How many Google searches were there during the whole day?

Google

60 000 x 60 x 60 x 24 = 5 184 000 000

There were _____ 5 184 000 000 Google searches.

Problem 42

2

150 000 emails are sent every minute. How many emails are sent in a day?



150 000 \times 60 \times 24 = 216 000 000

Problem 43

There are _____ emails sent in a day.

The average reading speed for a grade 6 student is 140 words per minute. Silas spent 8 hours of her weekend reading. How many words did he read?



Tessa read _____

140 x 60 x 8 = 67 200

Problem 44

67 200 words.

The average grade 6 student types 30 words per minute. How long would it take to type out the book, The People of Sparks, if it contains 83 700 words?



83 700 ÷ 30 = 2 790

It would take _____ minutes.

Problem 45

It would take 46 hours and 30 minutes.

3

If the average grade 6 student walks for 1 hour, he/she will take 6000 steps. During every kilometer, they will take approximately 1500 steps. Cayla and Teren decided to walk for 20 hours, how many steps would they take and how far would they walk in km?



Steps

6 000 x 20 = 120 000

Kilometers

120 000 ÷ 1 500 = 80

They will take _____ steps.

They will walk _____ km.

Problem 46

L

There were seven serving lines a Calvin's annual Soup 'n' Skate. The total number of people served at each of the seven lines were 151, 118, 142, 134, 112, 132, and 121. What was the median number of people served? (Organize the list of numbers from smallest to biggest. The median is the middle number.)



112 ' 118 ' 121 ' 132 ' 134 ' 142 ' 151

Problem 47

The median number of people served was _____ people.

2

Ben finished the race in 11.00 seconds. Peter finished 0.12 seconds faster than Ben. Sam finished 0.18 seconds faster than Peter. How long did it take Sam to finish the race?



Peter

11.00 - 0.12 = 10.88

10.88 - 0.18 = 10.7

It took Sam _____ 10.7 seconds to finish the race.

Problem 48

Norah wants to take 8 friends to SkyZone to celebrate her birthday. Each admission ticket cost \$15.50 each. How much money will she need for all of them, including her own ticket.



Cost

 $15.50 \times 9 = 139.50$

Problem 49

_ dollars for all of the tickets. Norah will need ____



The races had 3 732 people in attendance on Thursday, 4 529 people on Friday, and 4 387 people on Saturday. If the racetrack seats 5 000 people, how many empty seats were there in all for the three races?

Thursday

5 000 - 3732 = 1268

Friday

5 000 - 4529 = 471

Saturday

5 000 - 4 387 = 613

Empty Seats

1 268 + 471 + 613 = 2 352

There were ____<mark>2 352</mark> empty seats in all for the three races.

Problem 50

8

King Motors, Inc. and his employees tested five cars on a short track. The chart below shows the length of time each car took to complete the track once.



Employee's Car	Time
Austin	30 seconds
Lucas	32 seconds
Luke	44 seconds
Ben	51 seconds
Caleb	38 seconds



What is the range of time for these five cars?

(Range is the difference between the biggest and smallest number in a list)

30 ' 32 ' 38 ' 44 ' 51

57 - 30 = 27

27

What is the average length of time it took the five cars to go

around the track one time?

30 + 32 + 38 + 44 + 51 = 195

195 ÷ 5 = 39

39

Problem 51

Madison wants her birthday party to last for 4 hours and to be over at least 30 minutes before her bedtime. If her bedtime is at 9:00 p.m., what is the latest time she can start her birthday party?



Bedtime: 9:00

30 Minutes Before: 9:00 - 0:30 = 8:30 8:30 - 4:00 = 4:30 Start:

Problem 52

The latest time she can start her birthday party is ____**4:30**___ a.m.**(**p.m<u>.</u>

Elliott took a jar of candy to school to share with his classmates. There were 964 pieces of candy in the jar. The candy was divided equally among 36 students and both of his teachers. How many pieces of candy did each person receive? How many pieces of candy were left over?



Each person received _______ pieces of candy.

Problem 53

🔽 pieces were left over.

Shares is baking cookies. For one batch of cookies, she needs 1/4 cup of brown sugar and 1 1/2 cups of white sugar. If she triples the recipe, how much brown sugar and white sugar will she need?



White Sugar

Mattie will need ______ cup(s) of brown sugar

Problem 54

and $\frac{4 \frac{1}{2}}{2}$ cup(s) of white sugar.

Calvin Christian Elementary School is having a bake sale to raise money for some more MacBook Airs. They are selling pies for \$5.00 each and cookies for \$2.50 a dozen. Casey wants to buy 2 pies and 2 dozen cookies. If she pays with a twenty-dollar bill, what change should she get back?



Pies

 $2 \times 5.00 = 10.00$

Cookies

 $2 \times 2.50 = 5.00$

Change

20.00 - 10.00 - 5.00 = 5.00

Problem 55

Casey should get ______ back from a twenty-dollar bill.

8

Five people each volunteered to bake a different kind of pie for the fundraiser bake sale. The five pies are pecan, peach, cherry, apple, and chocolate. Use the clues below to determine who baked each pie.

NAMES	Pecan	Peach	Cherry	Apple	Chocolate
Ethan	X	√	X	X	X
Elyse	X	X	√	X	X
Aliyah	X	X	X	√	X
Alina	√	X	X	X	X
Isaac	X	X	X	X	✓

Clues:

- 1. The names of the five people are Ethan, Elyse, Aliyah, Alina, and Isaac.
- 2. Isaac did not make a fruit pie.
- 3. Aliyah made either the peach pie or the apple pie.
- 4. Elyse made either the cherry pie or the pecan pie.
- 5. Alina made a pie that starts with the letter "p".
- 6. One of the boys made the peach pie.

Problem 56



Sixteen teams are paying in a basketball tournament. Each team will play one game against another team during the first round of the tournament. There is only one gym, so only one game can be played at a time. They have six hours to complete the first round. What is the maximum length of time that can be allowed for each game?



Problem 57

The maximum length of each game can be only _____ minutes.

The basketball court is 50 feet across and 94 feet long. There is a black line painted around the entire basketball court. What is the length of this line?



$$P = 94 + 94 + 50 + 50$$

Problem 58

The line is _____ feet long.

The distance from the three-point mark to the center of the basketball hoop is 19 feet, 9 inches. What is the equivalent length in inches?



$$19 \times 12 = 228$$

$$228 + 9 = 237$$

Problem 59

The distance is _____237

The first quarter of the championship game lasted 48 minutes. The second quarter lasted 52 minutes. There was a special presentation at half time that lasted 25 minutes. The third quarter lasted 54 minutes and the fourth quarter lasted 49 minutes. If the game started at 6:30 pm, at what time did the game finish?

 Start:
 6:30

 1st Quarter:
 6:30 + 0:48 = 7:18

 2nd Quarter
 7:18 + 0:52 = 8:10

 Halftime:
 8:10 + 0:25 = 8:35

 3rd Quarter:
 8:35 + 0:54 = 9:29

 4th Quarter:
 9:29 + 0:49 = 10:18

Problem 60

The game finished at _____ pm.

6

Five middle schools played in a basketball tournament. Use the clues to determine how each school placed. Use the chart below to help you.

Clues:

Franklin Middle School finished in third place.

Brentwood Middle School placed immediately after Franklin Middle School.

Central Middle School finished immediately ahead of West Middle School.

Heath Middle School placed directly after Brentwood Middle School

Heath's place was the sum of Central's and Brentwood's places.

How did the schools finish?								
	1st	2nd	3rd	4th	5th			
Brentwood	X	X	X	√	X			
Central	√	X	X	X	X			
Franklin	X	X	√	X	X			
Heath	X	X	X	X	✓			
West	X	√	Х	X	Х			

Brentwood placed <u>4th</u>. Heath placed <u>5th</u>

Central placed <u>lst</u>. West paced <u>2nd</u>.

Franklin placed <u>3rd</u>.

Problem 61