

Name: \_\_\_\_\_

## Grade 6 math packet

### Week 1

**Directions:** Complete the pages of math problems assigned for the day. **Show your work in the space provided or on a separate sheet of paper.** Write the date when you complete that day's work. Have your parent/guardian sign at the bottom of this page when all of your week 1 work is complete and has been checked.

Tuesday: \_\_\_\_\_

Wednesday: \_\_\_\_\_

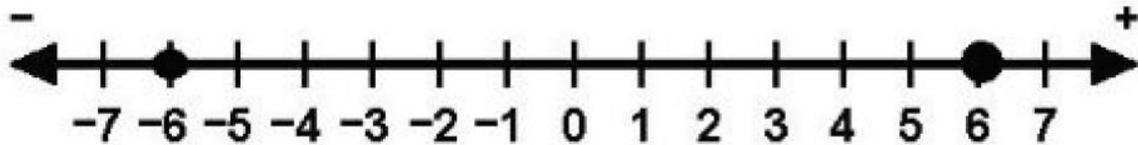
Thursday: \_\_\_\_\_

Friday: \_\_\_\_\_

Parent/Guardian Signature: \_\_\_\_\_

## Week 1, Day 1

1. What can be said about the points on the number line?



- A. They are both 12 units from 0
- B. They are both 6 units from 0
- C. They are both 3 units from 0
- D. They are different distances from 0

2. Point A and Point B are placed on a number line. Point A is located at -10 and Point B is 4 less than Point A.

Which statement about Point B is true?

- A. It is located at -14 and it is to the right of Point A on the number line
- B. It is located at -6 and it is to the right of Point A on the number line
- C. It is located at -14 and it is located to the left of Point A on the number line
- D. It is located at -6 and it is to the left of Point A on the number line.

3. Rob and Emilia are both in debt. Rob's account statement reads -\$250.00, and Emilia's reads -\$150.00.

Which of these statements is true?

- A. Rob's Balance > Emilia's Balance > 150
- B. Rob's Balance > 150 > Emilia's Balance
- C. Emilia's Balance < Rob's Balance < 0
- D. Rob's Balance < Emilia's Balance < 0

# KIPP:Nashville

4. Fast Track Amusement Park's number of customers is proportional to how large its discount on ticket price is. This table shows the relationship between the discount ( $d$ ) and the number of customers ( $c$ ) at the amusement park. Which equations represents this relationship?

Discount per Ticket (\$)	2	4	6	8	10
Number of People at Park	1000	2000	3000	4000	5000

- A.  $c = 1000d$
- B.  $c = 500d$
- C.  $c = 2000d$
- D.  $c = 2d$

5. The city of Bay Town has an altitude of -12 ft, and the city of Sky Town has an altitude of 12 ft. What can be said about their distance from sea level?

- A. Sky Town is a greater distance from sea level
- B. Bay Town is a greater distance from sea level
- C. Both cities are the same distance from sea level
- D. Cannot be determined from the given information

6. In Fargo, North Dakota, four temperatures were registered: -4 degrees at 8AM, 8 degrees at noon, 7.8 degrees at 4PM, and -6 degrees at 8PM. At which time was it the coldest?

- A. 8 AM
- B. Noon
- C. 4 PM
- D. 8 PM

7. Ricki texted her friend Naomi from her house in Brooklyn. "It is so cold here," Ricki said. "Right now it is  $-5^{\circ}$  outside!" Naomi, who went on a trip with her family, said, "It is colder where I am." Ricki knew Naomi went to both Chicago and Madison with her family for the trip but didn't know which city she was in at the moment. She looked at a weather map online and saw the following information.

City	Temperature
Brooklyn	$-5^{\circ}$
Chicago	$-3^{\circ}$
Madison	$-6^{\circ}$

Ricki concluded that Naomi must be in Chicago right now. Is Ricki correct or incorrect? Why? Support your explanation with an inequality that compares the temperature in the two cities.

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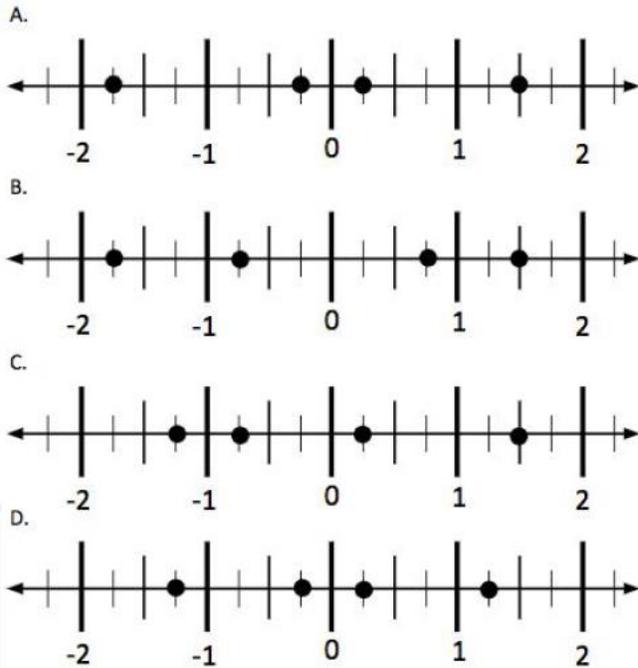
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## Week 1, Day 2

1. Which number line shows the correct position of all the values shown?

$$0.25, -1\frac{3}{4}, 1.5, -\frac{1}{4}$$



2. Which table below contains data that matches the equation below?  $c = \$4.25p$

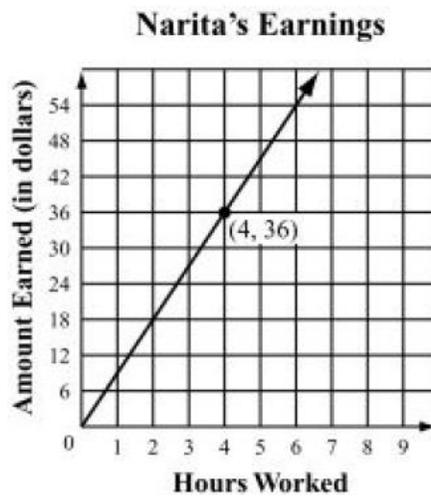
Table A		Table B		Table C		Table D	
Plants Purchased ( $p$ )	Cost ( $c$ )	Plants Purchased ( $p$ )	Cost ( $c$ )	Plants Purchased ( $p$ )	Cost ( $c$ )	Plants Purchased ( $p$ )	Cost ( $c$ )
2	\$4.25	4.25	\$1	4	\$17.00	17	\$4
4	\$8.50	8.50	\$2	8	\$34.00	34	\$8
6	\$12.75	12.75	\$3	12	\$51.00	51	\$12
8	\$17.00	17.00	\$4	16	\$68.00	68	\$16
10	\$21.25	21.25	\$5	20	\$85.00	85	\$20

- A. Table A
- B. Table B
- C. Table C
- D. Table D

3. Jerry was 72 feet below sea level, then dove another 8 feet deeper and is now swimming even deeper. Which of these values represents Jerry's altitude?

- A. altitude  $> 80$
- B. altitude  $> -64$
- C. altitude  $< -72$
- D. altitude  $< -80$

4. The graph below represents the relationship between the number of hours Narita worked,  $h$ , and the amount she earned in dollars,  $d$ .



Which equation represents the relationship between the number of hours Narita worked,  $h$ , and the amount of money she earned,  $d$ ?

- A.  $h = 4 + 36d$
- B.  $d = 9h$
- C.  $d = 4 + 36h$
- D.  $h = 9d$

5. The inequality below compares two rational numbers.

$$-2\frac{1}{2} > -4\frac{1}{2}$$

If the two numbers were plotted as values on a horizontal number line, which statement would be true?

- A. Both numbers lie to the right of 0, and  $-2\frac{1}{2}$  lies to the left of  $-4\frac{1}{2}$
- B. Both numbers lie to the left of 0, and  $-2\frac{1}{2}$  lies to the left of  $-4\frac{1}{2}$
- C. Both numbers lie to the right of 0, and  $-2\frac{1}{2}$  lies to the right of  $-4\frac{1}{2}$
- D. Both numbers lie to the left of 0, and  $-2\frac{1}{2}$  lies to the right of  $-4\frac{1}{2}$

6. The table below shows the low temperature in a town each day for four days.

**Low Temperatures**

Day	Monday	Tuesday	Wednesday	Thursday
Temperature (in °F)	5	1	-8	-3

Which of the following lists the temperatures in order from least to greatest?

- A. 1, -3, 5, -8
- B. -3, -8, 1, 5
- C. -8, -3, 5, 1
- D. -8, -3, 1, 5

7. Wilson's Widget Factory makes a consistent number of widgets every quarter hour.

Let  $h$  represent the number of hours a factory operates.

Let  $w$  represent the total number of widgets that factory produces.

**Wilson's Widget Factory**

Hours ( $h$ )	Total Number of Widgets ( $w$ )
0.75	48
1.5	96
2.25	144
3	192

Write an equation that represents the relationship between the number of hours the factory operates and the number of widgets it produces. Use your equation to determine the number of widgets Wilson's Widget Factory will produce in 10.5 hours.

*Show your work.*

## Week 1, Day 3

1. Russell is 74 inches tall. How tall is he in feet and inches?

- A. 6 ft 2 inches
- B. 7 ft 4 inches
- C. 5 ft 4 inches
- D. 5 ft 10 inches

2. Sydney ran 400 meters in 1 minute and 20 seconds. What was Sydney's average rate in meters per second?

- A. 4
- B. 3
- C. 8
- D. 5

3. Nina paid \$450 for 9 shirts. At this rate, how much would 12 shirts cost?

- A. \$108
- B. \$600
- C. \$500
- D. \$1,050

4. 40 of the cats at the pet store are black, which is 25% of all of the cats. How many cats are at the pet store?

- A. 25
- B. 100
- C. 10
- D. 160

5. For every 15 minutes of a show, there are two minutes of commercials. At this rate, if Leila has seen 45 minutes of a show, how many minutes has she been watching TV altogether?

- A. 6
- B. 15
- C. 45
- D. 51

6. Jamal has 75 oranges and 675 apples. What percentage of the fruit is apple?

- A. 9%
- B. 11%
- C. 90%
- D. 89%

7. A leaky faucet is losing water and is filling a 5-gallon bucket every 20 hours. At that rate, how many gallons of water will the faucet leak in 48 hours?

**Answer:** \_\_\_\_\_

## Week 1, Day 4

1. A grocery store sells a bag of 15 oranges for \$6. What is the unit cost of each orange in the bag?

- A. \$6.15
- B. \$0.90
- C. \$0.60
- D. \$0.40

2. Alonso buys homemade cheese at a rate of \$12.90 per 3 pounds. Which of the following cheeses cost the same rate?

- A. Mild Cheddar Cheese costs \$16.30 for 4 pounds
- B. Sharp Cheddar Cheese costs \$21.50 for 5 pounds
- C. Brie costs \$8.00 for 34.40 pounds
- D. Monterey Jack costs \$36.30 for 9 pounds

3. Ling has driven 110 miles in two hours. At that rate, how long will it take him to drive 275 miles?

- A. 4 hours
- B. 5 hours
- C. 6 hours
- D. 7 hours

4. In a 3 pound container of mixed fruit from Safeway Supermarket, 45% of the contents are melon and 20% of the contents are grapes. The rest are berries. How many pounds of berries are required to make a container?

- A. 35
- B. 1.95
- C. 1.35
- D. 1.05

5. Which of the following rates is equivalent to 0.25 liters per second?

- A. A water hose sprays 6 liters in 1.5 seconds.
- B. A water hose sprays 5 liters in 1.25 seconds.
- C. A water hose sprays 3.5 liters in 14 seconds.
- D. A water hose sprays 4 liters in 1 second.

6. Jackie's Pet Emporium has 48 birds, 56 dogs and twice as many cats as birds. What percentage of all the pets are cats?

- A. 50%
- B. 48%
- C. 24%
- D. 96%

7. Jacob rode his bicycle 144 miles in 9 weeks, riding the same distance each week. Lesley rode her bicycle 84 miles in 6 weeks, riding the same distance each week. How many more miles did Jacob ride his bicycle than Lesley per week they rode?

*Show your work.*

**Answer:** \_\_\_\_\_ more miles per week

## Week 2

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## Week 2, Day 1

1. Gloria rides a skateboard 8 miles in 40 minutes. Nannette rides a skateboard 5 miles in 30 minutes. If they continue to ride at those speeds, who will skateboard further in 1 hour?

- A. Gloria will skateboard 2 miles further than Nannette
- B. Gloria will skateboard 12 miles further than Nannette
- C. Nannette will skateboard 2 miles further than Gloria
- D. Nannette will skateboard 10 miles further than Gloria

2. Last week, Katrina sold 8 paintings for a total of \$1,000. Ronaldo sold 6 paintings for a total of \$1,200. This week, Katrina and Ronaldo both sold \$4,000 worth of paintings. Katrina earned the same rate as she did last week. Ronaldo earned twice as much per painting as he did last week.

How many more paintings did Katrina sell than Rolando this week?

- A. 2 more
- B. 4 more
- C. 22 more
- D. 32 more

3. What is the value of the expression below when  $m = 9$  and  $n = 3$ ?

$$M^{2n} \div (n + 6)$$

- A. 84
- B. 33
- C. 15
- D. 9

4. Which expression is equivalent to  $6(3x + 4) - 2x$  ?

- A.  $16x + 24$
- B.  $16x + 4$
- C.  $7x + 10$
- D.  $x + 10$

5. Daniel scored 8 more points than his friend Frank at a basketball game. Which expression below *best* represents this situation?

- A.  $8f$
- B.  $8 + f$
- C.  $8 \div f$
- D.  $8 - f$

6. If Herbert builds 17 sandcastles in 4 hours, how many does he build in 20 hours?

- A. 34
- B. 80
- C. 85
- D. 340

7. At Mary's bakery, chocolate chip cookies make up 45% of the total cookies, and oatmeal raisin cookies make up 25% of the total cookies. There are 330 cookies of the other types. How many cookies are there altogether?

***Show your work.***

## Week 2, Day 2

1. Which scenario could be represented by the following expression?

$$48 + 2x$$

- A. Sarah's phone contract costs her \$48 per month, but she pays an additional \$2 for every minute she goes over her allotted minutes.
- B. A florist began the day with 48 roses and sold approximately 2 roses per hour.
- C. Brianna has \$2 saved in her bank account and will save an additional \$48 per year.
- D. A pet store has 48 goldfish and sold approximately 2 fish per day.

2. Enrique has a goal of running a total of 80 miles this month. Each day that he ran, he ran 6 miles. Which expression could Enrique use to determine how many miles he has left to run after running for  $d$  days?

- A.  $80 - 6d$
- B.  $6d + 80$
- C.  $\frac{80}{6d}$
- D.  $6d$

3. Alex's uncle offered to give him a gift of 30% of the amount he could save in one year. Alex saved \$450 dollars. How much money did his uncle gift him?

- A. \$135
- B. \$315
- C. \$585
- D. \$1500

4. Vicky scored a total of 12 points in the first basketball game of the season. She scored 6 points per game in each of the other  $x$  basketball games she played that season. Which of the following expressions represents the total number of points Vicky scored in the basketball games for the whole season?

- A.  $6x$
- B.  $18x$
- C.  $12 + 6x$
- D.  $6 + 12x$

5. Which expression is equivalent to  $80 - 4y - 12$  ?

- A.  $4(17 - y)$
- B.  $4(20 - y) - 3$
- C.  $17(4 - y)$
- D.  $20(4 - 4y) - 9$

6. 20% of the balls in a ball pit are purple, and there are 242 purple balls. How many balls are there in total?

- A. 48
- B. 194
- C. 1210
- D. 4840

# KIPP•Nashville

7. An art teacher has a total of  $2\frac{1}{4}$  pounds of clay. The teacher puts  $\frac{1}{8}$  pounds of clay at each workstation. The teacher sets up an equal number of workstations in 2 classrooms. How many work stations does the teacher set up in each of the classrooms?

*Show your work.*

8. The formula below is used to convert a temperature in degrees Celsius, C, to a temperature in degrees Fahrenheit, F.

$$F = 1.8C + 32$$

The low temperature in Florida was  $5^{\circ}$ . What was the low temperature in degrees Fahrenheit?

**Show your work.**

## Week 2, Day 3

1. Felipe buys  $p$  pounds of watermelon for 50 cents per pound. He pays the cashier with a ten-dollar bill. The cashier subtracts the total cost of the watermelon from the ten-dollar bill to determine the amount of change to give Felipe.

Which expression represents the amount of change Felipe should receive?

- A.  $p - 10$
- B.  $10 - 50p$
- C.  $0.50p - 10$
- D.  $10 - 0.50p$

2. Pam says that  $12g + 20$  is equivalent to  $4g(3 + 5)$ . She said “I factored out  $4g$  from both terms because  $4g$  times 3 is  $12g$  and  $4 \times 5$  is 20.”

Which statement describes Pam’s flaw in reasoning?

- A.  $4g$  times 3 is not  $12g$ .
- B. 4 times 5 is not 20.
- C.  $4g$  is a factor of  $20g$ , not 20.
- D. She should have factored out the addition symbol, too, so she should have factored out  $4 + g$ , not  $4g$ .

3. 15% of a school of musicians are guitar players. There are 435 guitar players. How many musicians are there at the school?

- A. 29
- B. 2,900
- C. 6,525
- D. 870

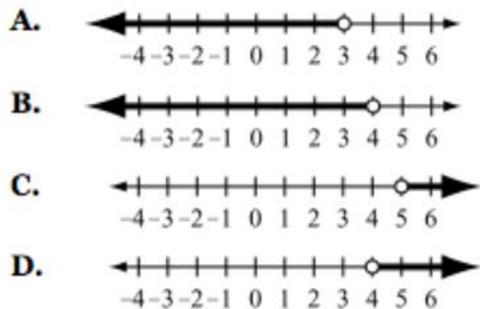
4. The cost of renting a truck is \$40. An additional \$0.79 is charged for each mile,  $m$ , the truck is driven. Which expression can be used to determine the total cost, in dollars of renting a truck?

- A.  $0.79m + 40$
- B.  $0.79m - 40$
- C.  $40m - 0.79$
- D.  $40m + 0.79$

5. In which set do all of the values make the inequality  $4x - 1 < 12$  true?

- A.  $\{10, 15, 20\}$
- B.  $\{5, 6, 7\}$
- C.  $\{3, 4, 5\}$
- D.  $\{1, 2, 3\}$

6. Which of the following number lines best represents all the solutions of the inequality  $x < 4$ ?



7. Cirque du Soleil had a performance at a theater in New York City and one at a theater in Las Vegas. The theater in New York City has 1,800 seats. Tickets for 75% of the total number of seats were sold. How many tickets were sold?

**Show your work**

**Answer** \_\_\_\_\_ tickets

The theater in Vegas has 650 seats. Tickets were sold for 611 of the seats. For what percent of the seats were the tickets sold?

**Show your work.**

**Answer** \_\_\_\_\_ seats

## Week 2, Day 4

1. Ella spends  $1\frac{1}{2}$  hours taking care of her dog. During this time, she walks the dog and then spends  $\frac{3}{4}$  hours grooming him. Which equation could you use to find  $t$ , the time Ella spends walking her dog?

A.  $t - \frac{3}{4} = 1\frac{1}{2}$

B.  $\frac{3}{4} + t = 1\frac{1}{2}$

C.  $t - 1\frac{1}{2} = \frac{3}{4}$

D.  $1\frac{1}{2} + t = \frac{3}{4}$

2. A sandwich shop sells sandwiches for \$6.75 each, including tax. The shop received a total of \$87.75 from the sales of sandwiches one morning. Which equation can be used to determine the number of sandwiches,  $x$ , sold by the sandwich shop that morning?

A.  $6.75 + x = 87.75$

B.  $6.75 \div 87.75 = x$

C.  $6.75x = 87.75$

D.  $6.75 \div x = 87.75$

3. A shopper buys four watermelons. The weight, in pounds, of each of the four watermelons is listed below.

20.5, 21.2, 23.4, 21

Which inequality represents the weight,  $w$ , of any watermelon the shopper bought?

A.  $w > 21$

B.  $w < 21.2$

C.  $w > 23.4$

D.  $w < 23.5$

4. Jason has a collection of 12 model planes. His father added to the collection and Jason now has 32 model planes. Which equation and answer solution represent the number of model planes,  $p$ , Jason's father gave him?

- A.  $12 = 32 + p$ ;  $p = 20$
- B.  $12 + p = 32$ ;  $p = 44$
- C.  $44 = 12 + p$ ;  $p = 32$
- D.  $32 = 12 + p$ ;  $p = 20$

5. The competitors of a Pinewood Derby must make their cars out of blocks of wood. In order to make the races fair, the weight ( $w$ ) of each car can not exceed 5.0 ounces. Which of the following inequality statements can be used to show this relationship?

- A.  $w > 5.0$  ounces
- B.  $w \geq 5.0$  ounces
- C.  $w \leq 5.0$  ounces
- D.  $w < 5.0$  ounces

6. Solve the equation below.

$$0.7a = 6.3$$

- A.  $a = 0.9$
- B.  $a = 5.6$
- C.  $a = 9$
- D.  $a = 56$

7. Emma and her family are on their way to Orlando, Florida which is 660 miles away from them. Based on the route they chose, they expect to complete their trip in three days. The distances and average speeds for the first two days are shown below:

- First day: 5 hours at an average speed of 60 miles per hour.
- Second day: 4 hours at an average speed of 65 miles per hour.

If the average speed on the third day is 50 miles per hour, how many more hours will it take for them to reach Orlando, Florida?

**Show your work.**

Answer: \_\_\_\_\_ hours

## Week 2, Day 5

1. Select the equation that has  $m = 34.87$  as a solution

A.  $m \times 21 = 731.27$

B.  $9m = 323.83$

C.  $m + 14 = 488.18$

D.  $68 + m = 102.87$

2. Juan wants to save a total of \$160.50 to buy a new video game system. He has already saved \$50 and plans to save the rest over the next six months. Which equation and solution represents the amount of money,  $m$ , Juan still needs to save?

A.  $50 + m = 160.50$ ;  $m = \$160$

B.  $160.50 = 50 + m$ ;  $m = \$110.50$

C.  $160.50 - 50 = m$ ;  $m = \$160$

D.  $50 - m = 160.50$ ;  $m = \$110.50$

3. Ling has \$25 to spend on art supplies. She wants to buy pencils, paint, and paint brushes. If the total cost of pencils and paint is more than \$17, which inequality represents the dollar amount,  $p$ , Ling can spend on paint brushes?

A.  $p < 8$

B.  $p > 8$

C.  $p < 42$

D.  $p > 42$

4. Which equation has the solution  $x = 3$ ?

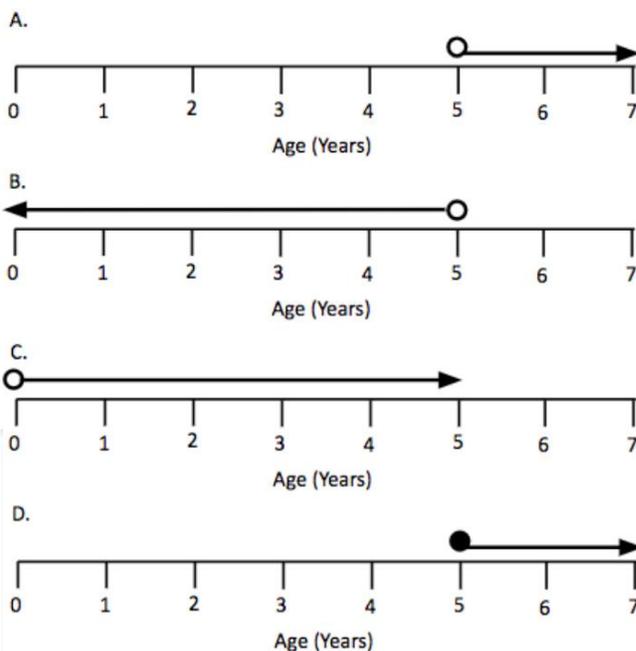
- A.  $2x - 4 = 19$
- B.  $4x + 2 = 14$
- C.  $5x - 5 = -10$
- D.  $3x + 1 = 9$

5. What is the solution of the equation below?

$$y + 7.59 = 13.004$$

- A.  $y = 5.414$
- B.  $y = 6.594$
- C.  $y = 12.245$
- D.  $y = 20.594$

6. To enroll at Washington Elementary School, a student must be at least 5 years old. Which number line below shows the possible ages of students enrolled at Washington Elementary School?



7. Marcus took \$42.75 to the state fair. Each ticket to go into the fair cost  $x$  dollars. Marcus bought 4 tickets.

Write an expression that represents the amount of money, in dollars, that Marcus had after he bought the tickets.

**Expression:** \_\_\_\_\_

Use your expression to find how much money Marcus has leftover if each ticket costs \$5.50

**Show your work**

8. Barbara's truck weighs 80,000 pounds when it is at max capacity. When her trailer is empty (carrying no cows) the truck's weight with her inside it is 36,000 pounds. Each cow weighs 2,000 pounds. Write and solve an equation to determine  $c$ , the maximum number of cows she can fit in her trailer.

**Show your work.**

**Equation:** \_\_\_\_\_

**Answer:** \_\_\_\_\_ cows