5th Grade Summer Math Packet

Dear Parents, Answer Key

I am giving your child a summer math packet to help your student work on math skills over the summer. This is required and will be collected in the fall by the sixth grade math teacher. I encourage you to have your child work on the problems at their own pace. They should then correct any good mistakes with you. I have included an answer key for you to help guide their learning.

Thank you,
Lisa Petryszyn

Answer key

Writing Expressions

Write an expression to represent each verbal phrase.

Subtract 9 and 2, then multiply by 4. $(9-2)\cdot 4$	Divide 8 by 2 and then add 1. $(8\div 2)+1$	Triple 4 and then add 6. $3\cdot 4+6$
Add 2 and 8 and then multiply by 2. $(2+8)\cdot 2$	Double 6 and then divide by 3. $(2\cdot 6)\div 3$	Add 4, 6 and 13. $4+6+13$
Subtract 9 and 2 and add 5. $9-2+5$	4 plus the product of 2 and 7. $4+(2\cdot 7)$	The sum of 6 times 5 and 9 minus 2. $(6\cdot 5)+(9-2)$
8 less than the quotient of 20 and 5. $20\div 5-8$	The product of 4 and triple the number 2. $4\cdot(3\cdot 2)$	Multiply 5 and 7 and then divide by 5. $(5\cdot 7)\div 5$
The difference of four times four and six. $(4\cdot 4)-6$	4 more than the difference of 10 and 2. $(10-2)+4$	20 divided by the product of 2 and 4. $20\div(2\cdot 4)$

Answer key

describing patterns

Describe the pattern in each table.

Each pound is $3

lbs.	Total Cost ($)
0	0
1	3
2	6
3	9

100 guests each day.

Day	# of Guests
1	100
2	200
3	300
4	400

2 cupcakes sold each day

Day	Cupcakes Sold
0	0
1	2
2	4
3	6

$3 for every 2 pounds ($1.50 ea.)

lbs.	Total Cost ($)
0	0
2	3
4	6
6	9

30 tickets sold each day.

Day	Tickets Sold
1	30
2	60
3	90
4	120

$10 for every 2 boxes ($5 each)

Boxes	Cost ($)
0	0
2	10
4	20
6	30

30 cookies every 3 days (10 each day)

Day	Cookies Made
0	0
3	30
6	60
9	90

$5 for each bag

Bags	Total Cost ($)
1	5
2	10
3	15
4	20

$20 spent for every 10 kids ($2 each kid)

Kids	Total Spent ($)
10	20
20	40
30	60
40	80

1 teacher for every 5 kids

Kids	Teachers
5	1
10	2
15	3
20	4

$2 for every 4 pounds ($0.50 each)

lbs.	Total Cost ($)
0	0
4	2
8	4
12	6

40 sold every 5 days (8 each day)

Day	Number Sold
0	0
5	40
10	80
15	120

Answer key

Powers of 10

What is the relationship between the exponent in $4.3 \cdot 10^3$ and 4,300?	What is the relationship between the exponent in $8.2 \div 10^2$ and 0.082?	What is the relationship between the exponent in $5 \cdot 10^6$ and 5,000,000?
The exponent shows how many places the decimal moves right. 4.3 gets 10^3 bigger	The exponent shows how many places the decimal moves left. 8.2 gets 10^2 smaller.	The exponent shows how many times the decimal moves right. 5 gets 10^6 bigger.

Complete the pattern:	Is the multiplication sentence below true? Explain.
$4.2 \cdot 10 = 4.2 \cdot 10^{\boxed{1}} =$ 42 $4.2 \cdot 10 \cdot 10 = 4.2 \cdot 10^{\boxed{2}} =$ 420 $4.2 \cdot 10 \cdot 10 \cdot 10 = 4.2 \cdot 10^{\boxed{3}} =$ 4,200	$5.3 \cdot 10^4 = 530{,}000$ yes. 10^4 = decimal moves right 4. 5.3000

If $6 \cdot 3 = 18$, then $600 \cdot 3 =$?	$53.2 \cdot$ 10^4 $= 532{,}000$	If $400 \cdot 5 = 2{,}000$, then $400 \cdot 500 =$?
1,800		200,000
Solve: $7.95 \cdot 10^3$	Solve: $6{,}000{,}000 \div 10^3$	Solve: $4.02 \cdot 10^2$
7,950	6,000	402
Solve: $7.95 \div 10^3$	Solve: $6{,}000{,}000 \cdot 10^3$	If [illegible] n
0.00795	6,000,000,000	

Answer key

Expanded Form

Write the number below in expanded form. 5,482 $(5\times1{,}000)+(4\times100)+(8\times10)+(2\times1)$	Write the number below in expanded form. 38.25 $(3\times10)+(8\times1)+(2\times\frac{1}{10})+(5\times\frac{1}{100})$	Write the number below in expanded form. 4.082 $(4\times1)+(8\times\frac{1}{100})+(2\times\frac{1}{1000})$
Write in numeric form. "Fifteen and two hundredths" 15.02	Write in numeric form. $(8\cdot10)+(4\cdot1)+(5\cdot\frac{1}{100})$ 84.05	Write in numeric form. $(5\cdot100)+(2\cdot\frac{1}{10})$ 500.2
Write the number below in expanded form. 800.124 $(8\times100)+(1\times\frac{1}{10})+(2\times\frac{1}{100})+(4\times\frac{1}{1{,}000})$	Write in numeric form. "Four thousand three hundred one" 4,301	Write in numeric form. "Nine and two tenths" 9.2
Write a number equivalent to 0.7. $7\times\frac{1}{10}$ $\frac{7}{10}$	Write a number equivalent to 0.4050. $\frac{405}{1{,}000}$	Write a number equivalent to 6.203. $6+(\frac{203}{1{,}000})$
Write the number below in expanded form. 250.6 $(2\times100)+(5\times10)+(6\times\frac{1}{10})$	Write the number below in expanded form. 0.046 $(4\times\frac{1}{100})+(6\times\frac{1}{1{,}000})$	Write a number equivalent to 400.39. $400+(\frac{39}{100})$

Answer key

Rounding Decimals

Round 15.435 to the nearest tenth. 15.4	Round 567.065 to the nearest hundredth. 567.07	Round 874.32 to the nearest ten. 870
Round 4.623 to the nearest whole number. 5	Round 0.7845 to the nearest hundredth. 0.78	Round 71.963 to the nearest tenth. 72
Round 6.8245 to the nearest tenth. 6.8	Round 182.675 to the nearest hundred. 200	Round 42.96 to the nearest ten. 40
Round 18.096 to the nearest whole number. 18	Round 14.6734 to the nearest hundredth. 14.67	Round 28.946 to the nearest tenth. 28.9
Round 104.642 to the nearest tenth. 104.6	Round 13.811 to the nearest whole number. 14	Round 23.462 to the nearest hundredth. 23.46

Answer key

Multi-Digit Division

Find each quotient.

186 ÷ 62 3	525 ÷ 15 35	896 ÷ 14 64
288 ÷ 32 9	688 ÷ 86 8	156 ÷ 12 13
1,232 ÷ 14 88	540 ÷ 20 27	720 ÷ 48 15

A bag of candy contains 24 pieces. How many bags are needed for a school of 864 students if each student receives one piece?

36 bags

A theater has rows of 32 seats. How many rows are needed if 960 people attend a performance at the theater?

30 rows

Construction paper comes 16 sheets per pack. How many packs need to be purchase in order to get 224 pieces?

14 packs

Answer key

Subtracting Decimals

Find each difference.

15.2 – 6.25 15.20 - 6.25 8.95	9.35 – 0.6 9.35 - 0.6 8.75	10.362 – 1.2 10.362 - 1.2 9.162	30.5 – 3.23 30.50 - 3.23 27.27
12.9 – 8.2 12.9 - 8.2 4.7	8 – 0.25 8.00 - 0.25 7.75	15.5 – 3 15.5 - 3 12.5	16.32 – 8.1 16.32 - 8.1 8.22

Your lunch bill is $13.14. A friend pays $6.99. How much is left to pay?

13.14
- 6.99
6.15

You cut a 2.675 foot section from an 8.9 foot piece of wood. How much is left?

8.900
- 2.675
6.225

Ryan bought 5.67 pounds of candy and ate 2.9 pounds. How much is left?

5.67
- 2.9
2.77

Travis has a $20 gift card. He spent $9.62 and then another $2.49. How much is left on the gift card?

20.00
- 12.11
7.89

9.62
+ 2.49
12.11

Answer key

Dividing Decimals

Find each quotient.

13.2 ÷ 6 2.2	9.4 ÷ 2 4.7	8.3 ÷ 5 1.66	29.2 ÷ 4 7.3
25.2 ÷ 5 5.1	6.4 ÷ 8 0.8	10.35 ÷ 9 1.15	30.4 ÷ 8 10.05

A 32.34 inch piece of ribbon is cut into 6 pieces. How long is each piece?

5.39 inches

A 14.24 pound bag of cheese is split among 5 pizzas. How much chees is on each pizza?

2.848 pounds

An 8.2 pound bag of candy is shared equally among 10 teachers. How much candy did each teacher get?

0.82 pounds

A 6.5 foot long piece of wood is cut into 5 sections. How long is each section?

1.3 feet

Answer key

Multiplying Fractions

Find each product.

$\frac{2}{5} \cdot \frac{7}{10}$ $\frac{1}{5} \cdot \frac{7}{5}$ $\frac{7}{25}$	$\frac{2}{3} \cdot 8$ $\frac{16}{3}$ $5\frac{1}{3}$	$\frac{5}{6} \cdot \frac{1}{2}$ $\frac{5}{12}$	$10 \cdot \frac{4}{5}$ $2 \cdot \frac{4}{1}$ 8
$3\frac{1}{2} \cdot 4$ $\frac{7}{2} \cdot 4$ $\frac{7}{1} \cdot 2$ 14	$6\frac{1}{8} \cdot 2\frac{1}{2}$ $\frac{49}{8} \cdot \frac{5}{2}$ $\frac{245}{16} = 15\frac{5}{16}$	$4\frac{2}{3} \cdot 6\frac{1}{4}$ $\frac{14}{3} \cdot \frac{25}{4}$ $\frac{7}{3} \cdot \frac{25}{2}$ $\frac{175}{6} = 29\frac{1}{6}$	$5\frac{1}{2} \cdot 5\frac{1}{2}$ $\frac{11}{2} \cdot \frac{11}{2}$ $\frac{121}{4}$ $30\frac{1}{4}$
$8\frac{1}{3} \cdot 2\frac{1}{4}$ $\frac{25}{3} \cdot \frac{9}{4}$ $\frac{25}{1} \cdot \frac{3}{4}$ $\frac{75}{4} = 18\frac{3}{4}$	$3\frac{3}{5} \cdot 6\frac{1}{5}$ $\frac{18}{5} \cdot \frac{31}{5}$ $\frac{558}{25} = 22\frac{8}{25}$	$9\frac{1}{2} \cdot 1\frac{7}{10}$ $\frac{19}{2} \cdot \frac{17}{10}$ $\frac{323}{20} = 16\frac{3}{20}$	$8 \cdot 2\frac{1}{2}$ $8 \cdot \frac{5}{2}$ $4 \cdot \frac{5}{1}$ 20

You ran $4\frac{1}{2}$ times around a $2\frac{1}{4}$ mile track. How far did you run?

$\frac{9}{2} \cdot \frac{9}{4} = \frac{81}{8} =$

$\frac{81}{8} = 80\frac{1}{8}$

You car drove $5\frac{3}{5}$ times around a $2\frac{1}{8}$ mile track. How far did the car travel?

$\frac{28}{5} \cdot \frac{17}{8}$

$\frac{7}{5} \cdot \frac{17}{2} = \frac{119}{10} = 11\frac{9}{10}$

Answer key

Dividing Fractions

Find each quotient.

$\frac{2}{5} \div 8$ $\frac{2}{5} \cdot \frac{1}{8}$ $\frac{2}{40} = \frac{1}{20}$	$\frac{5}{6} \div 4$ $\frac{5}{6} \cdot \frac{1}{4}$ $\frac{5}{24}$	$\frac{7}{8} \div 2$ $\frac{7}{8} \cdot \frac{1}{2}$ $\frac{7}{16}$	$\frac{9}{10} \div 4$ $\frac{9}{10} \cdot \frac{1}{4}$ $\frac{9}{40}$
$3\frac{1}{2} \div 5$ $\frac{7}{2} \cdot \frac{1}{5}$ $\frac{7}{10}$	$6\frac{1}{5} \div 2$ $\frac{31}{5} \cdot \frac{1}{2}$ $\frac{31}{10} = 3\frac{1}{10}$	$9\frac{1}{3} \div 3$ $\frac{28}{3} \cdot \frac{1}{3}$ $\frac{28}{9} = 3\frac{1}{9}$	$5\frac{2}{5} \div 2$ $\frac{27}{5} \cdot \frac{1}{2}$ $\frac{27}{10} = 2\frac{7}{10}$

You split $8\frac{1}{2}$ pounds of strawberries equally among 5 containers. How many pounds of strawberries are in each container?

$8\frac{1}{2} \div 5$

$\frac{17}{2} \cdot \frac{1}{5} = \frac{17}{10} = 1\frac{7}{10}$

A $12\frac{1}{5}$ inch long piece of ribbon is cut into 4 pieces. How long is each piece?

$12\frac{1}{5} \div 4$

$\frac{61}{5} \cdot \frac{1}{4} = \frac{61}{20} = 3\frac{1}{20}$

A $4\frac{9}{10}$ foot long piece of wood is cut into 6 sections. How long is each section?

$4\frac{9}{10} \div 6$

$\frac{49}{10} \cdot \frac{1}{6} = \frac{49}{60}$

A $12\frac{2}{3}$ pound bag of chocolate is split equally among 20 boxes. How much chocolate is in each box?

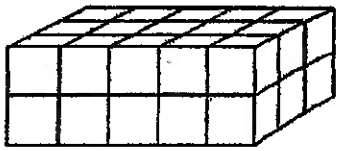
$12\frac{2}{3} \div 20$

$\frac{38}{3} \cdot \frac{1}{20} = \frac{38}{60} = \frac{19}{30}$

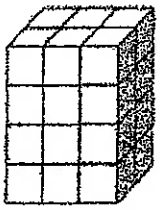
Answer key

Volume

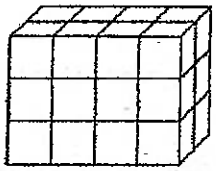
Find the volume of each shape.



$5 \cdot 3 \cdot 2 = 30 \text{ units}^3$

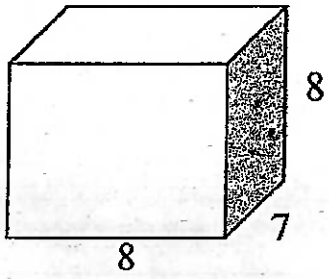


$3 \cdot 2 \cdot 4 = 24 \text{ units}^3$



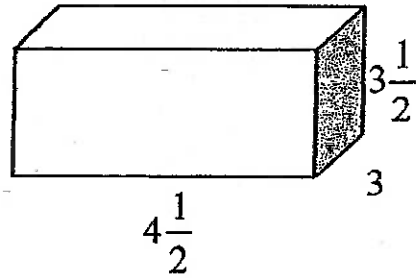
$4 \cdot 2 \cdot 3 = 24 \text{ units}^3$

Feet



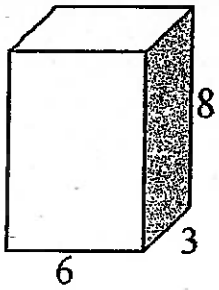
$8 \cdot 8 \cdot 7 = 448 \text{ ft.}^3$

Inches



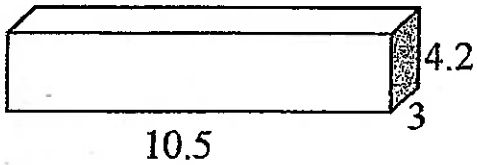
$\frac{9}{2} \cdot \frac{7}{2} \cdot \frac{3}{1} = 47\frac{1}{4} \text{ in}^3$

Feet



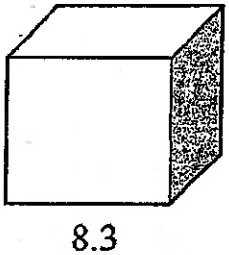
$8 \cdot 3 \cdot 6 = 144 \text{ ft}^3$

Centimeters



$10.5 \cdot 3 \cdot 4.2 = 132.3 \text{ cm}^3$

Inches



$8.3 \cdot 8.3 \cdot 8.3 = 571.787 \text{ in}^3$

Answer key

Measurement conversions

How many quarts are in 9 gallons? 36 quarts	How many gallons are in 44 quarts? 11 gallons	How many cups are in 6 pints? 12 cups
How many feet are in 3.5 yards? 10.5 feet	How many centimeters are in 5 ½ meters? 550 centimeters	How many quarts are in 2.5 gallons? 10 quarts
How many pints are in 4 quarts? 8 pints	How many inches are in 2 ¾ yards? 99 inches	How many centimeters are in 3 ½ meters? 350 cm.
How many meters are in 450 centimeters? 4.5 meters	How many yards are in 38 inches? 1 1/8 yards	How many gallons are in 10 quarts? 2.5 gallons
How many pints are in 4 gallons? 32 pints	How many pints are in 40 ounces? 2.5 pints	How many feet are in 2.4 yards? 7.2 feet

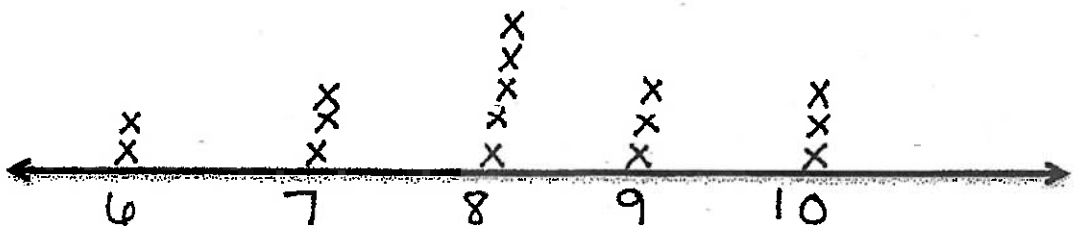
Answer key

Line plots

For questions 1 – 2, create a line plot using the given information.

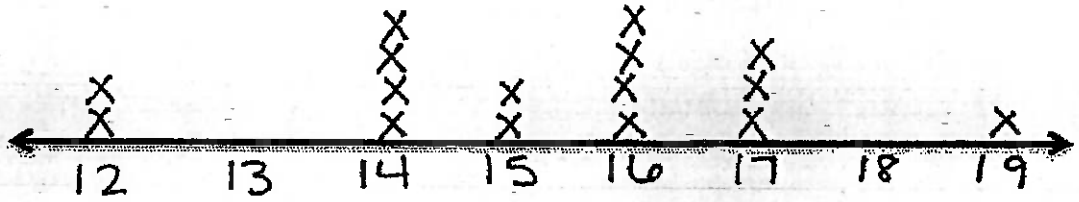
1. The ages of kids in an art club:

6, 8, 9, 8, 7, 10, 8, 9, 7, 7, 6, 9, 10, 10, 8, 8

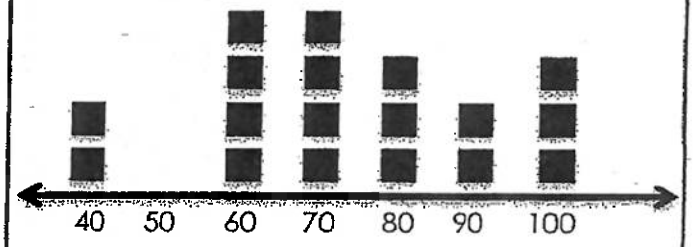


2. The height of flowers in a garden:

12, 16, 17, 15, 16, 14, 15, 16, 17, 14, 14, 16, 19, 12, 14, 17



Use the line plot below to answer questions 3 – 5.



3. The line plot shows test scores for a 10 question quiz. How many students scored higher than 70%?

8 students

4. How many students got a perfect score?

3 students

5. How many students scored 60% or lower?

6 students